

# 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



Report No.: 0405/15/ED/1281B

## MONTHLY EM&A REPORT

January 2021

**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/1281B

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

Ref.: CEDKTDS3EM00\_0\_0534L.21

11 February 2021

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

By Post and Email

Attention: Mr. Pat Lam

Dear Mr. Lam,

**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 January 2021**

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for January 2021 (Report No. 0405/15/ED/1281B) we received by e-mail on 11 February 2021.

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



Manson Yeung

Independent Environmental Checker

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



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## **EXECUTIVE SUMMARY**

- 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 January and 31 January 2021. As informed by the Contractor, major activities in the reporting month were:
  - Landscape works – irrigation systems, tree and shrub planting

### **Breaches of the Action and Limit Levels**

- iii. Five Action Level exceedance for 24-hr TSP were recorded in the reporting month. An exceedance were recorded at KER1 on 20 January 2021. Four exceedance were recorded at KTD2c on 4, 14, 20 and 26 January 2021.
- iv. No Action / Limit Level exceedance was recorded for 24-hr TSP at KTD1 in the reporting month.
- v. No Action / Limit Level exceedance was recorded for construction noise at KTD1, KTD2c and KER1 in the reporting month.

### **Complaint, Notification of Summons and Successful Prosecution**

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

### **Reporting Changes**

- vii. There was no reporting change in the reporting month.

### **Future Key Issues**

- viii. 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 59<sup>th</sup> monthly EM&A Report which summarize the impact monitoring results and audit findings for the Project within the period between 1 January and 31 January 2021.



**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. MaterialLab 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)	Senior Resident Engineer	Mr. Pat Lam	3742 3803	3742 3899
IEC (Ramboll Hong Kong Limited)	Independent Environmental Checker	Mr. Manson Yeung	9700 6767	3465 2899
Main Contractor (CRBC)	Site Agent	Mr. Yau Kwok Kiu, Dickey	5699 4503	2283 1689
	Environmental Officer	Miss. Lila Lui	9790 5433	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:

- Landscape works – irrigation systems, tree and shrub planting

**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;
- Good maintenance to the plant and equipment;
- Use of quieter plant and Quality Powered Mechanical Equipment (QPME);
- Using the approved Non-road Mobile Machineries (NRMMs);
- Proper storage and handling of chemical;
- 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;
- 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**

<b>Environmental License / Permit / Notification</b>	<b>Reference Number</b>	<b>Valid From</b>	<b>Valid Till</b>
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
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**

- 2.1.1 In accordance with the approved EM&A Manuals, 24-hour Total Suspended Particulates (TSP) monitoring 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.
- 2.1.2 The monitoring equipment, monitoring methodology and monitoring schedule are detailed in the monthly EM&A Reports for EP-451/2013 prepared for Contract No. ED/2018/04.

**2.2 Monitoring Locations**

- 2.2.1 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 Contract No. ED/2018/04.
- 2.2.2 According to the approved alternative baseline air quality and noise monitoring locations (EPD reference: 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.
- 2.2.3 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 location KER1b for air quality monitoring.
- 2.2.4 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 location KTD2b for air quality monitoring.
- 2.2.5 According to the approved relocation of monitoring location KTD2b (EPD reference: () in EP2/K19/A/21 pt.7), the monitoring location KTD2b are proposed to be relocated by alternative monitoring location KTD2c for air quality monitoring.
- 2.2.6 As informed by the ET of Contract No. ED/2018/04, the monitoring location KTD1a and KER1b have been relocated to KTD1 and KER1 for air monitoring on 3 August 2020.
- 2.2.7 The most updated locations are summarized in **Table 2.1** and shown in **Figure 2**.

**Table 2.1 Location of Air Quality Monitoring Station**

Monitoring Station	Location
KTD1	Centre of Excellence in Paediatrics (Rooftop of Children’s Hospital)
KTD2c	G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1	Future Residential Development at Kerry Godown



## 2.3 Results and Observations

- 2.3.1 The monitoring results and observations for KTD1, KTD2c and KER1 are reported in the Monthly EM&A Reports for EP-451/2013 prepared for Contract No. ED/2018/04.
- 2.3.2 Five Action Level exceedance for 24-hr TSP were recorded in the reporting month. An exceedance were recorded at KER1 on 20 January 2021. Four exceedance were recorded at KTD2c on 4, 14, 20 and 26 January 2021.
- 2.3.3 No Action / Limit Level exceedance was recorded for 24-hr TSP at KTD1 in the reporting month.
- 2.3.4 On 4 January 2021, at KTD2c non-project related construction works were carried out during 24-hr TSP monitoring. Dust generated from construction site of Trunk Road T2 when breaking activities were processing. Thus, it is considered that this exceedance is not project related.
- 2.3.5 On 14 January 2021, at KTD2c non-project related construction works were carried out during 24-hr TSP monitoring. Dust generated from construction site of Trunk Road T2 when breaking activities were processing. Dust arise from a stockpile of excavated dusty material with no impervious sheet covered was observed at the construction site of Trunk Road T2. Thus, it is considered that this exceedance is not project related.
- 2.3.6 On 20 January 2021, at KTD2c non-project related construction works were carried out during 24-hr TSP monitoring. Dust generated from construction site of Trunk Road T2 when material handling was carried out near the monitoring station. Dust arise from a stockpile of excavated dusty material with no impervious sheet covered was observed at the construction site of Trunk Road T2. Thus, it is considered that this exceedance is not project related.
- 2.3.7 On 20 January 2021, at KER1 non-project related construction works were carried out during 24-hr TSP monitoring. Dust generated from open stockpiles of excavated dusty material in the vicinity of monitoring station KER1 and the road traffic along Kai Hing Road. Thus, it is considered that this exceedance is not project related.
- 2.3.8 On 26 January 2021, at KTD2c non-project related construction works were carried out during 24-hr TSP monitoring. Dust generated from construction site of Trunk Road T2 when piling work was carried out near the monitoring station. Dust arise from a stockpile of excavated dusty material with no impervious sheet covered was observed at the construction site of Trunk Road T2 and road traffic along Kwun Tong Bypass. Thus, it is considered that this exceedance is not project related.
- 2.3.9 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting month.
- 2.3.10 The weather conditions during the monitoring are provided in **Appendix F**.



**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.
- 3.1.2 The monitoring equipment, monitoring methodology and monitoring schedule are detailed in the monthly EM&A Reports for EP-451/2013 prepared for Contract No. ED/2018/04.

**3.2 Monitoring Locations**

- 3.2.1 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 Contract No. ED/2018/04.
- 3.2.2 According to the approved alternative baseline air quality and noise monitoring locations (EPD reference: 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.
- 3.2.3 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 location KER1b for noise monitoring.
- 3.2.4 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 location KTD2b for noise monitoring.
- 3.2.5 According to the approved relocation of monitoring location KTD2b (EPD reference: () in EP2/K19/A/21 pt.7), the monitoring location KTD2b are proposed to be relocated by alternative monitoring location KTD2c for noise monitoring.
- 3.2.6 As informed by the ET of Contract No. ED/2018/04, the monitoring location KTD1a and KER1b have been relocated to KTD1 and KER1 for noise monitoring on 3 August 2020.
- 3.2.7 The most updated locations are summarized in **Table 3.1** and shown in **Figure 2**.

**Table 3.1 Location of Noise Monitoring Station**

Monitoring Station	Location
KTD1	Centre of Excellence in Paediatrics (Rooftop of Children's Hospital)
KTD2c	G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1	Future Residential Development at Kerry Godown



### **3.3 Results and Observations**

- 3.3.1 The monitoring results and observations for KTD1, KTD2c and KER1 are reported in the Monthly EM&A Reports for EP-451/2013 prepared for Contract No. ED/2018/04.
- 3.3.2 No Action / Limit Level exceedance was recorded for construction noise at KTD1, KTD2c and KER1 in the reporting month.



## **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, five weekly landscape and visual site audits were carried out on 6, 13, 20 and 27 January 2021 and two of them 13 and 27 January 2021 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 C** 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 D**.



## **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 E**.
- 6.1.2 In the reporting month, five site inspections were carried out 6, 13, 20 and 27 January 2021.
- 6.1.3 No outstanding issues were reported during the reporting month. Details of observations recorded during the site inspections are summarized in **Appendix H**.
- 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 Five Action Level exceedance for 24-hr TSP were recorded in the reporting month. An exceedance were recorded at KER1 on 20 January 2021. Four exceedance were recorded at KTD2c on 4, 14, 20 and 26 January 2021.

7.1.2 No Action / Limit Level exceedance was recorded for 24-hr TSP at KTD1 in the reporting month.

7.1.3 No Action / Limit Level exceedance was recorded for construction noise at KER1, KTD1 and KTD2c 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 G**.

## 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 E**. 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
<u>EP-337/2009</u>		
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 (December 2020)	15/1/2021
<u>EP-339/2009/A</u>		
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 (December 2020)	15/1/2021
<u>EP-451/2013</u>		
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 (December 2020)	15/1/2021



## **9. FUTURE KEY ISSUES**

### **9.1 Construction Programme for the Next Two Months**

- Landscape works – irrigation systems, tree and shrub planting

### **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 reported in the monthly EM&A Report for EP-451/2013 prepared for Contract No. ED/2018/04.

## 10. CONCLUSIONS

- 10.1.1 24-hour TSP impact monitoring and construction noise monitoring were carried out in the reporting month.
- 10.1.2 Five Action Level exceedance for 24-hr TSP were recorded in the reporting month. An exceedance were recorded at KER1 on 20 January 2021. Four exceedance were recorded at KTD2c on 4, 14, 20 and 26 January 2021.
- 10.1.3 No Action / Limit Level exceedance was recorded for 24-hr TSP at KTD1 in the reporting month.
- 10.1.4 No Action / Limit Level exceedance was recorded for construction noise at KTD1, KTD2c and KER1 in the reporting month.
- 10.1.5 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting month.
- 10.1.6 Four environmental site inspections were carried out in the reporting month. No recommendation was given to the Contractor for remediating the deficiencies identified during the site inspections.
- 10.1.7 Four weekly Landscape and Visual Site audits were carried out 6, 13, 20 and 27 January 2021 and two of them 13 and 27 January 2021 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).
- 10.1.8 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

- No specific observation was identified in the reporting month.

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Hong Kong.

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



### 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.

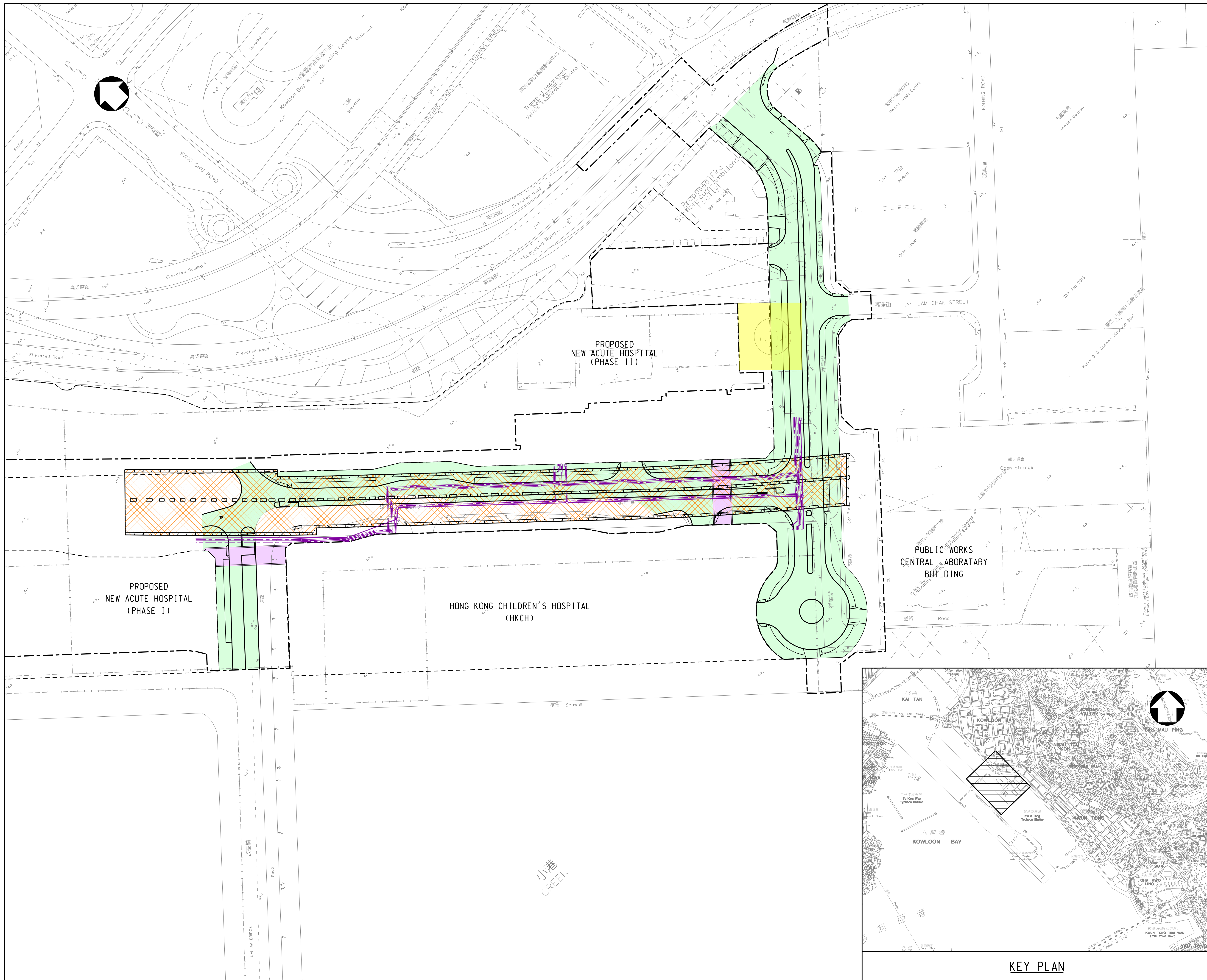
Tel : +852 2450 8238  
Fax : +852 2450 8032  
E-mail : [mcl@fugro.com](mailto:mcl@fugro.com)  
Website : [www.fugro.com](http://www.fugro.com)



### **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



CLIENT



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

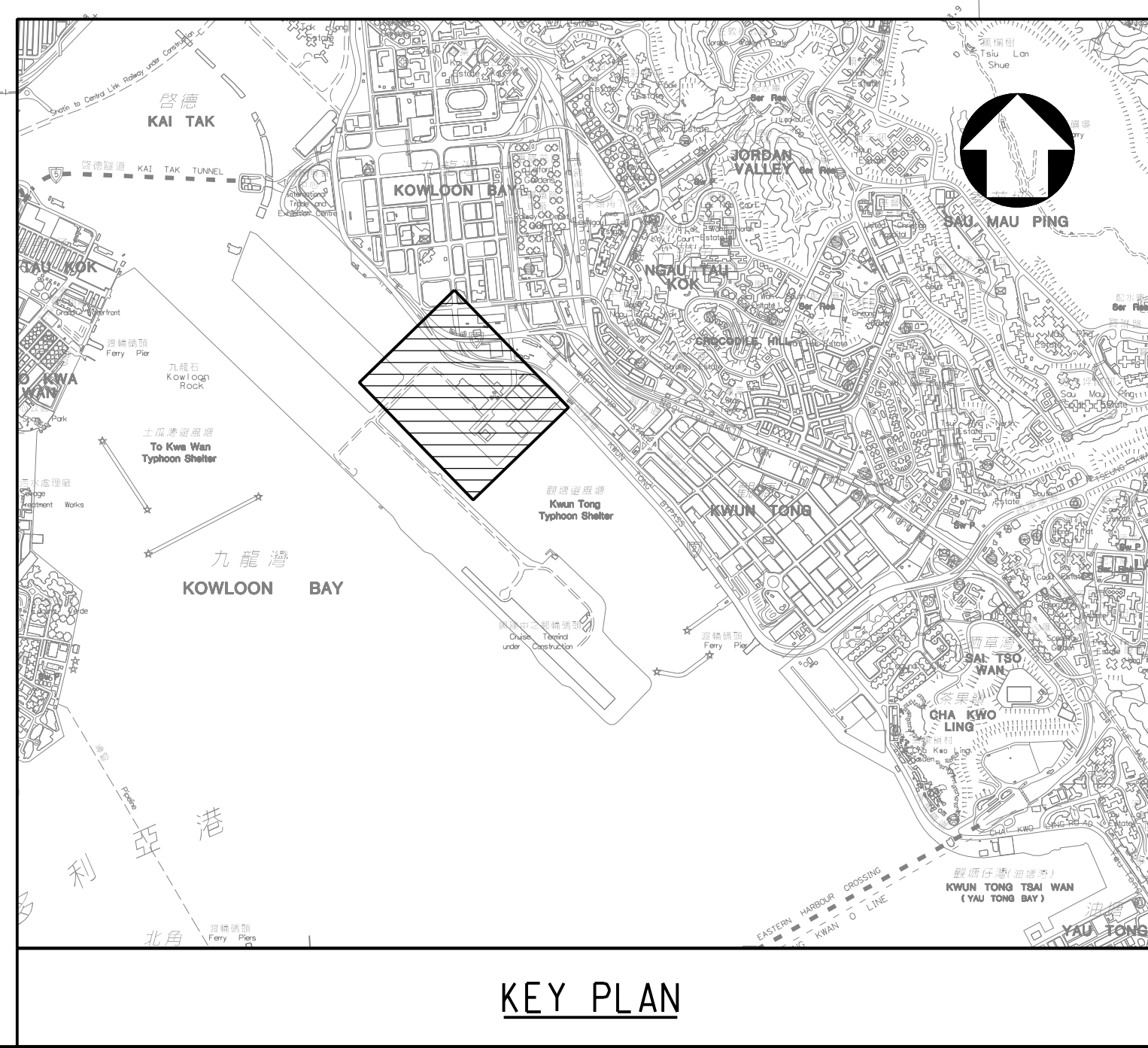
TITLE

GENERAL LAYOUT PLAN

DESIGNED		ENG. CHECK	
DRAWN		COORDINATION	
DWG. CHECK		APPROVED	
SCALE AT A1	STATUS	REV	
1 : 1000		A	

Drawing No. **FIGURE 1.0**

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KEY PLAN

PRINTED BY: kitchan 18/2/2015 13:00:43  
 FILENAME: K:\91164 Trunk Road T2\Tender Drawing (Contract I)\Figure 1.dgn



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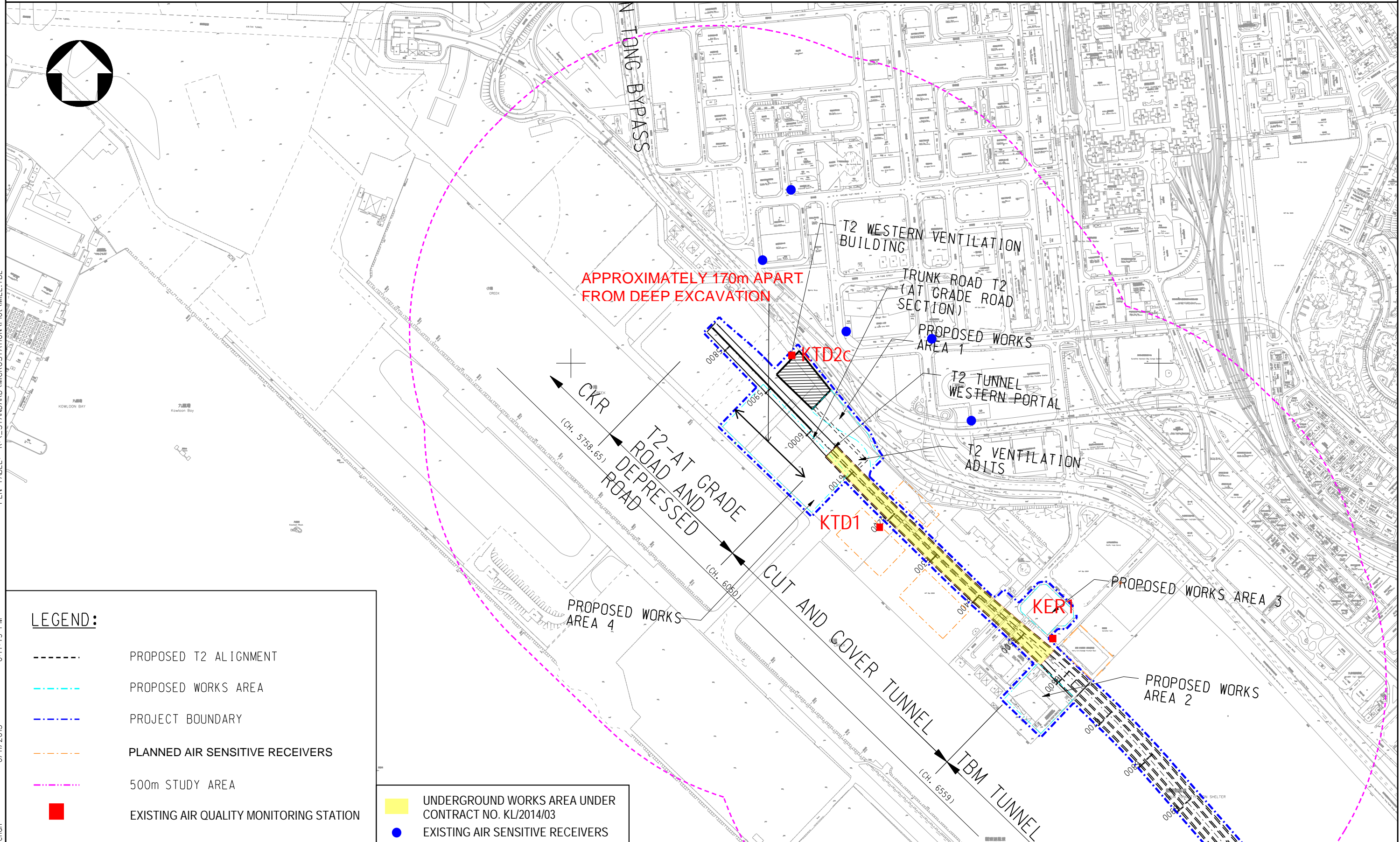
Room 723 & 725, 7/F, Block B,  
Profit Industrial Building,  
1-15 Kwai Fung Crescent, Kwai Fong,  
Hong Kong.

Tel : +852 2450 8238  
Fax : +852 2450 8032  
E-mail : [mcl@fugro.com](mailto:mcl@fugro.com)  
Website : [www.fugro.com](http://www.fugro.com)



### **Figure 2**

#### **Air and Noise Monitoring Locations**



**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

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

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Drawing No.

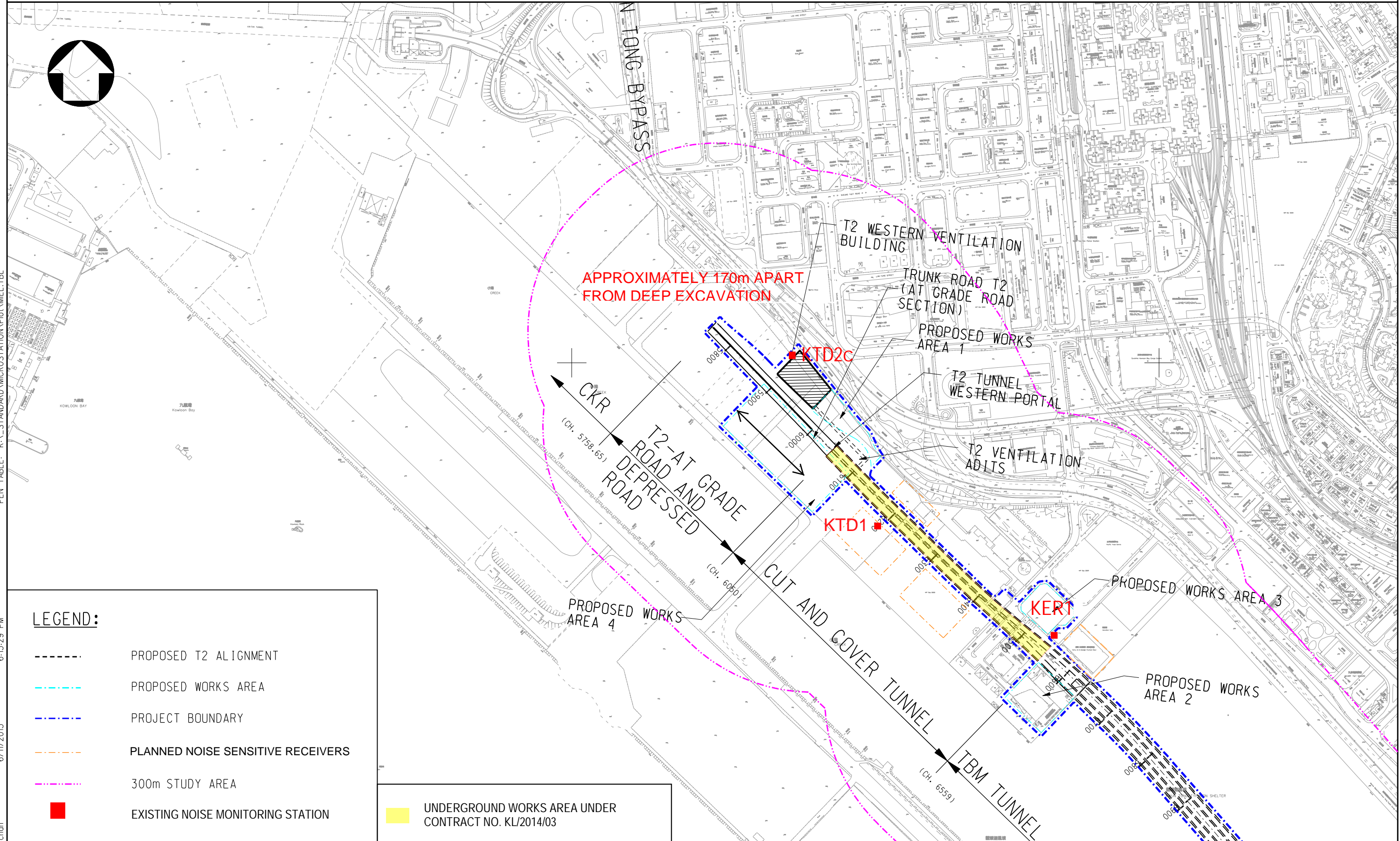
FIGURE 2.1a(revised)

Rev.

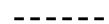





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Rev.	Description	Date





**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

Drawing title

**IDENTIFIED NOISE 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 2.2 a (revised)

Rev.

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Rev.	Description	Date



## **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](mailto:mcl@fugro.com)  
Website : [www.fugro.com](http://www.fugro.com)



### **Appendix A**

### **Construction Programme**

Activity ID	Activity Name	Rem Dur	Start	Finish	October				November				December				January			
					18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	31

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

**Project Key Dates**

**Project Commencement and Completion**

K-PK-PCC-1200	Project Completion Date	0		31-Oct-20*	◆ Project Completion Date
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**Project Completion Date**

K-PK-PCD-1600	Section 5 - Completion of All Landscape Softworks	0		31-Oct-20*	◆ Section 5 - Completion of All Landscape Softworks
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K-PK-PCD-1700	Section 6 - Completion of all Establishment Works for all Landscape Softworks	0		31-Oct-20*	◆ Section 6 - Completion of all Establishment Works for all Landscape Softworks
---------------	---	---	--	------------	---

K-PK-PCD-1800	Section 7 - Preservation and Protection of Existing Trees	0		31-Oct-20*	◆ Section 7 - Preservation and Protection of Existing Trees
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**Site Handover Date**

K-PK-SHD-1000	Portion A	0		31-Oct-20*	◆ Portion A
---------------	-----------	---	--	------------	-------------

K-PK-SHD-1400	Portion D	0		31-Oct-20*	◆ Portion D
---------------	-----------	---	--	------------	-------------

K-PK-SHD-1500	Portion E	0		31-Oct-20*	◆ Portion E
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K-PK-SHD-1600	Portion F	0		31-Oct-20*	◆ Portion F
---------------	-----------	---	--	------------	-------------

K-PK-SHD-1800	Portion I	0		31-Oct-20*	◆ Portion I
---------------	-----------	---	--	------------	-------------

K-PK-SHD-1900	Portion K	0		31-Oct-20*	◆ Portion K
---------------	-----------	---	--	------------	-------------

K-PK-SHD-2000	Portion M	0		31-Oct-20*	◆ Portion M
---------------	-----------	---	--	------------	-------------

K-PK-SHD-2200	Portion O	0		31-Oct-20*	◆ Portion O
---------------	-----------	---	--	------------	-------------

K-PK-SHD-2500	Portion R	0		31-Oct-20*	◆ Portion R
---------------	-----------	---	--	------------	-------------

K-PK-SHD-2600	Portion X	0		02-Nov-20*	◆ Portion X
---------------	-----------	---	--	------------	-------------

**General Submission**

**Interfacing Works**

K-PA-INT-5000	Joint inspection and handover for DCS Contract/ EMSD	0	25-Sep-20 A	21-Oct-20 A	■ Joint inspection and handover for DCS Contract/ EMSD
---------------	--	---	-------------	-------------	--

K-PA-INT-6000	Joint inspection and handover for road works, street furniture and lighting to HyD	4	10-Nov-20	13-Nov-20	■ Joint inspection and handover for road works, street furniture and lighting to HyD
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K-PA-INT-6010	Joint inspection and handover for traffic signal system to TD/EMSD	4	06-Nov-20	10-Nov-20	■ Joint inspection and handover for traffic signal system to TD/EMSD
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**Preliminaries**

K-DR-PRE-1800	Submission of time-lapsed photographs and video	3	20-Feb-16 A	02-Nov-20	■ Submission of time-lapsed photographs and video
---------------	---	---	-------------	-----------	---

**Section 1 of the Works-Remainder of the Works**

**Roadwork and Drainage Works**

**Road D4-3 (Ching Shung Road)**

**Zone 4 R & D Works**

SCR2172	Carry out and complete remaining works	2	20-Aug-19 A	02-Nov-20	■ Carry out and complete remaining works
---------	--	---	-------------	-----------	--

Activity ID	Activity Name	Rem Dur	Start	Finish	Number	November					December					January				
						04	11	18	25	01	08	15	22	29	06	13	20	27	03	10
<b>Road D4-4 (Cheung Yip Street)</b>																				
<i>CH100 to CH150 Cheung Yip Street Cul de Sac</i>																				
<b>Cheung Yip Street Cul de Sac</b>																				
SCR2670	Laying Cable and Construction for Road Lighting	0	06-Jul-20 A	09-Oct-20 A	Cable and Construction for Road Lighting															
SCR2680	Construction of Footpath	0	10-Apr-20 A	08-Oct-20 A	Construction of Footpath															
SCR2690	Construction of Street Furniture	0	25-Jul-20 A	13-Oct-20 A	Construction of Street Furniture															
<i>CH220 - CH420 Northbound</i>																				
<b>Road Works and Miscellaneous Works</b>																				
K-01-RWS-9444	Construction of Footpath	0	17-Dec-19 A	28-Sep-20 A	Construction of Footpath															
K-01-RWS-9446	Laying Cable and Footing Construction for Road Lighting	5	25-May-20 A	05-Nov-20	Laying Cable and Footing Construction for Road Lighting															
<i>CH220 - CH420 Southbound</i>																				
<b>Miscellaneous Works</b>																				
K-01-RWS-9630	Construction of Footpath	3	27-Mar-20 A	03-Nov-20	Construction of Footpath															
K-01-RWS-9632	Construction of Street Furniture	7	14-Sep-20 A	09-Nov-20	Construction of Street Furniture															
<b>Section 3 of the Works- Construction of District Cooling System (Subject to Excision)</b>																				
<b>Construction of District Cooling System</b>																				
<b>Construction of DCS Works at Zone 4</b>																				
SCR2350	Submission of testing records, as-built drawings	0	19-Feb-20 A	18-Sep-20 A	Submission of testing records, as-built drawings															
SCR2380	Joint inspection and handover for connection to DCS Contract/EMSD	0	28-Jun-20 A	21-Oct-20 A	Joint inspection and handover for connection to DCS Contract/EMSD															
<b>Section 5 of the Works-Completion of All Landscape Softworks</b>																				
<b>Tree Planting</b>																				
K-05-TPG-1150	Tree Planting	0	24-Mar-20 A	22-Sep-20 A	Tree Planting															
<b>Shrub Planting</b>																				
K-05-SPG-1200	Shrub Planting	3	24-Mar-20 A	02-Nov-20	Shrub Planting															
<b>Irrigation System</b>																				
K-05-ISM-1290	Insatllation of Water Meters	3	23-Oct-20 A	02-Nov-20	Insatllation of Water Meters															
K-05-ISM-1300	Testing and commissioning of irrigation system	30	03-Nov-20	02-Dec-20	Testing and commissioning of irrigation system															
<b>Section 7 of the Works-Preservation and Protection of Existing Trees</b>																				
K-07-001-1000	Section 7 of the Works-Preservation and Protection of Existing Trees	7	04-Jan-16 A	06-Nov-20	Section 7 of the Works-Preservation and Protection of Existing Trees															

## **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](mailto:mcl@fugro.com)  
Website : [www.fugro.com](http://www.fugro.com)



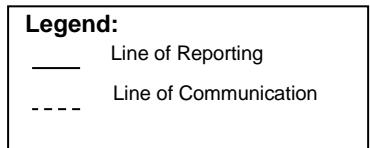
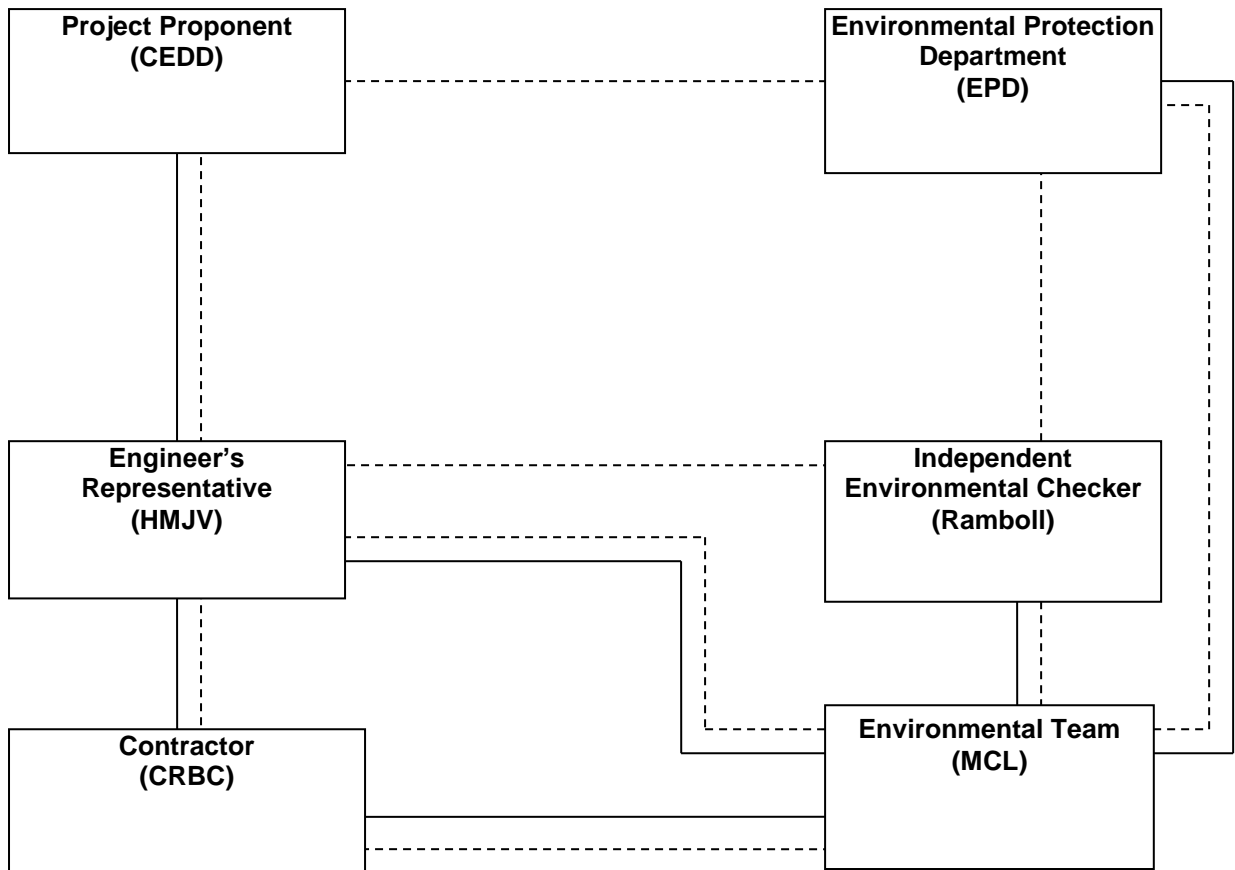
### **Appendix B**

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



## **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](mailto:mcl@fugro.com)  
Website : [www.fugro.com](http://www.fugro.com)



### **Appendix C**

#### **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
<b>Action Level</b>				
Exceedance for one sample.	<ol style="list-style-type: none"> <li>1. Identify sources, investigate the causes of complaint and propose remedial measures.</li> <li>2. Inform IEC and ER.</li> <li>3. Repeat measurement to confirm finding;.</li> <li>4. Increase monitoring frequency</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET.</li> <li>2. Check the Contractor's working methods.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify the Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practices.</li> <li>2. Amend working methods agreed with the ER as appropriate.</li> </ol>
Exceedance for two or more consecutive samples.	<ol style="list-style-type: none"> <li>1. Identify sources.</li> <li>2. Inform the IEC and ER.</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings.</li> <li>5. Increase monitoring frequency to daily.</li> <li>6. Discuss with the IEC, ER and Contractor on remedial action required.</li> <li>7. If exceedance continues, arrange meeting with the IEC, Contractor and ER.</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET.</li> <li>2. Check the Contractor's working methods.</li> <li>3. Discuss with the ET, ER and Contractor on possible remedial measures if required.</li> <li>4. Advise the ER on the effectiveness of proposed remedial measures if required.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify the Contractor.</li> <li>2. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial action to the ER within 3 working days of notification.</li> <li>2. Implement the agreed proposals.</li> <li>3. Amend proposal as appropriate</li> </ol>
<b>Limit Level</b>				
Exceedance for one sample.	<ol style="list-style-type: none"> <li>1. Identify sources, investigate causes of exceedance and proposed remedial measures.</li> <li>2. Inform the IEC, ER, and Contractor.</li> <li>3. Repeat measurement to confirm finding.</li> <li>4. Increase monitoring frequency to daily.</li> <li>5. Assess effectiveness of the Contractor's remedial action and keep the IEC and ER informed of the results</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET.</li> <li>2. Check the Contractor's working methods.</li> <li>3. Discuss with the ET, ER and Contractor on possible remedial measures.</li> <li>4. Advise the ER and ET on the effectiveness of the proposed remedial measures.</li> <li>5. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of the notification of exceedance in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance.</li> <li>2. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification.</li> <li>3. Implement the agreed proposals.</li> <li>4. Amend proposal as appropriate.</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Notify the IEC, ER and Contractor.</li> <li>2. Identify sources.</li> <li>3. Repeat measurements to confirm findings.</li> <li>4. Increase monitoring frequency to daily.</li> <li>5. Carry out analysis of the Contractor's working procedures with the ER to determine the possible mitigation to be implemented.</li> <li>6. Arrange meeting with the IEC and ER to discuss the remedial</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst the ER, ET and Contractor on the potential remedial action.</li> <li>2. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER and ET accordingly.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of the notification of exceedance in writing.</li> <li>2. Notify the Contractor.</li> <li>3. In consultation with the IEC and ET, agree with the Contractor on the remedial measures to be implemented.</li> <li>4. Ensure remedial measures are properly implemented.</li> <li>5. If exceedance continues, consider</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance.</li> <li>2. Submit proposals for remedial action to the ER and copy to the IEC and ET within 3 working days of notification.</li> <li>3. Implement the agreed proposals.</li> <li>4. Resubmit proposals if problems still not under control.</li> <li>5. Stop the relevant portion of works as determined by the ER</li> </ol>

# 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	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	<ol style="list-style-type: none"> <li>1. Notify the IEC, ER and Contractor.</li> <li>2. Carry out investigation.</li> <li>3. Report the results of investigation to the IEC and Contractor.</li> <li>4. Discuss jointly with the ER and Contractor and formulate remedial measures.</li> <li>5. Increase the monitoring frequency to check the mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the monitoring data submitted by the ET.</li> <li>2. Review the construction methods and proposed remedial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify the Contractor.</li> <li>2. Require the Contractor to propose remedial measures for implementation if required.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to the ER and copy to the IEC and ET.</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Notify the IEC, ER and Contractor.</li> <li>2. Identify sources.</li> <li>3. Repeat measurements to confirm findings.</li> <li>4. Carry out analysis of the Contractor's working procedures with the ER and Contractor to determine possible mitigations to be implemented.</li> <li>5. Record the causes and action taken for the exceedances.</li> <li>6. Increase the monitoring frequency.</li> <li>7. Assess the effectiveness of the Contractor's remedial action with the ER and keep the IEC informed of the results.</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst the ER, ET and Contractor on the potential remedial action.</li> <li>2. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER accordingly.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Require the Contractor to propose remedial measures for the analysed noise problems.</li> <li>4. Ensure remedial measures are properly implemented.</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance.</li> <li>2. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification.</li> <li>3. Implement the agreed proposals.</li> <li>4. Resubmit proposals if problems still not under control.</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

# 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	<ol style="list-style-type: none"> <li>1. Identify Source</li> <li>2. Inform the IEC and the ER</li> <li>3. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>4. Monitor remedial actions until rectification has been completed</li> </ol>	<ol style="list-style-type: none"> <li>1. Check report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> <li>5. Check implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> <li>2. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Amend working methods</li> <li>2. Rectify damage and undertake any necessary replacement</li> </ol>
Repeated Non-conformity	<ol style="list-style-type: none"> <li>1. Identify Source</li> <li>2. Inform the IEC and the ER</li> <li>3. Increase monitoring frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> <li>5. Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Amend working methods</li> <li>2. Rectify damage and undertake any necessary replacement</li> </ol>

## **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](mailto:mcl@fugro.com)  
Website : [www.fugro.com](http://www.fugro.com)

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### **Appendix D**

#### **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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
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
<b>Total</b>	<b>51.213</b>	<b>0.4025</b>	<b>1.9967</b>	<b>Nil</b>	<b>48.8138</b>	<b>Nil</b>	<b>140.07</b>	<b>0.276</b>	<b>0.00014</b>	<b>0.1106</b>	<b>0.4288</b>

**Note:**

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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

# 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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
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
<b>Total</b>	<b>113.4059</b>	<b>Nil</b>	<b>4.9790</b>	<b>Nil</b>	<b>108.4269</b>	<b>Nil</b>	<b>85.412</b>	<b>0.5665</b>	<b>Nil</b>	<b>0.25</b>	<b>0.2567</b>

**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

# 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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
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
<b>Total</b>	<b>79.0017</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>79.5783</b>	<b>0.5913</b>	<b>180.23</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>0.3614</b>

**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

# 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 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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
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	0.6110	Nil	Nil	Nil	0.6110	Nil	Nil	Nil	Nil	Nil	0.0519
<b>Total</b>	<b>35.058</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35.5158</b>	<b>0.4577</b>	<b>0</b>	<b>0.17</b>	<b>0</b>	<b>0</b>	<b>0.4375</b>

**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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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 2020											
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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
2020 Jan	0.3807	Nil	Nil	Nil	0.3807	Nil	Nil	Nil	Nil	Nil	0.0276
2020 Feb	0.2862	Nil	Nil	Nil	0.2862	Nil	Nil	Nil	Nil	Nil	0.0365
2020 Mar	0.4291	Nil	Nil	Nil	0.4291	Nil	Nil	Nil	Nil	Nil	0.0270
2020 Apr	0.1812	Nil	Nil	Nil	0.1812	Nil	Nil	Nil	Nil	Nil	0.0201
2020 May	0.2966	Nil	Nil	Nil	0.2966	Nil	Nil	Nil	Nil	Nil	0.0168
2020 Jun	0.1691	Nil	Nil	Nil	0.1691	Nil	Nil	Nil	Nil	Nil	0.0079
2020 Jul	0.0630	Nil	Nil	Nil	0.0630	Nil	Nil	Nil	Nil	Nil	0.0273
2020 Aug	0.1189	Nil	Nil	Nil	0.1189	Nil	Nil	Nil	Nil	Nil	0.0116
2020 Sep	0.1151	Nil	Nil	Nil	0.1151	Nil	Nil	Nil	Nil	Nil	0.0090
2020 Oct	0.0400	Nil	Nil	Nil	0.0400	Nil	Nil	Nil	Nil	Nil	0.0083
2020 Nov	0.0123	Nil	Nil	Nil	0.0123	Nil	Nil	Nil	Nil	Nil	0.0154
2020 Dec	0.1070	Nil	Nil	Nil	0.1070	Nil	Nil	Nil	Nil	Nil	0.1070
<b>Total</b>	<b>2.1992</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2.1992</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.3145</b>

**Note:**

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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



Waste Flow Table for Year 2021											
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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
2021 Jan	0.0318	-	-	-	0.0318	-	-	-	-	-	0.0786
2021 Feb											
2021 Mar											
2021 Apr											
2021 May											
2021 Jun											
2021 Jul											
2021 Aug											
2021 Sep											
2021 Oct											
2021 Nov											
2021 Dec											
<b>Total</b>	<b>0.0318</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0318</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0786</b>

**Note:**

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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](mailto:mcl@fugro.com)  
Website : [www.fugro.com](http://www.fugro.com)



### **Appendix E**

#### **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
<u>Air Quality Measures</u>					
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	Not Applicable
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	Not Applicable
		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

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		<u>Good Site Practices</u>			
AEIAR-130/2009 S3.2, S5.2.19, AEIAR-174/2013 S4.9.2.2	AEIAR 130/2009 EM&A Manual S2.2, S4.2, AEIAR 174/2013 EM&A Manual S2.3.1.2	Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.	Contractor	All relevant worksites	Not Applicable
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		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

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Profit Industrial Building,  
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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
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		Open stockpiles shall be avoided or covered. Prevent placing dusty material storage piles near ASRs.	Contractor	All relevant worksites	Not Applicable
		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	Not Applicable
		Plant and equipment should be well maintained to prevent dark smoke emission.	Contractor	All relevant worksites	Not Applicable
<u>Noise Measures</u>					
Trunk Road T2					

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
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: <ul style="list-style-type: none"> <li>• Concrete lorry mixer</li> <li>• Dump Truck, 5.5 tonne &lt; gross vehicle weight &lt;= 38 tonne</li> <li>• Generator, Super Silenced, 70 dB(A) at 7m</li> <li>• Poker, vibratory, Hand-held (electric)</li> <li>• Water Pump, Submersible (Electric)</li> <li>• Mobile Crane - KOBELCO CKS900</li> <li>• Excavator, wheeled/tracked - HYUNDAI R80CR-9</li> </ul>	Contractor	All relevant worksites	Not Applicable
		Use of temporary or fixed noise barriers with a surface density of at least 10kg/m <sup>2</sup> 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 <sup>2</sup> 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	Not Applicable
		<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	Not Applicable
		Silencers or mufflers on construction equipment should be utilized and shall be properly maintained during the construction/ decommissioning program.	Contractor	All relevant worksites	Not Applicable
		Mobile plant, if any, should be sited as far away from NSRs as possible.	Contractor	All relevant worksites	Not Applicable
		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	Not Applicable

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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
		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	Not Applicable
		Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction/ decommissioning activities.	Contractor	All relevant worksites	Not Applicable
		Use of site hoarding as a noise barrier to screen noise at low level NSRs.	Contractor	All relevant worksites	Not Applicable
		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	Not Applicable
		Quiet powered mechanical equipment (PME) shall be used for the construction of the Project.	Contractor	All relevant worksites	Not Applicable
		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 vehicles with proper labels are allowed to be used in specified activities on-site.	Contractor	All relevant worksites	Not Applicable
<u>Water Quality Measures</u>					
Trunk Road T2					

# 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
		<u>Accidental Spillage</u>			
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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
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	Not Applicable
		<u>Dredging, Reclamation and Filling</u>			
		No dredging, reclamation or filling in the marine environment shall be carried out.	Contractor	All relevant	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  
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
				worksites	
Decommissioning of the Radar Station of the former Kai Tak Airport					
		<u>Building Demolition</u>			
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	Not Applicable
		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	Contractor	All relevant worksites	Not Applicable

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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



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		based on the guidelines in Appendix A1 of ProPECC PN 1/94.			
		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 rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	Contractor	All relevant worksites	Not Applicable
		Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m <sup>3</sup> 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	Not Applicable
		Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m <sup>3</sup> 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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		An adequately designed and located wheel washing bay should be provided at every site exit,	Contractor	All relevant	Not Applicable

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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



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		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.		worksites	
		<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	Not Applicable
		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	Not Applicable
		<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	Not Applicable

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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



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		<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 properly to avoid entering into the adjacent harbour waters. Stockpiles of cement and other construction materials should be kept covered when not being used.	Contractor	All relevant worksites	Implemented
		<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	Not Applicable
<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	Contractor	All relevant	Implemented

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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



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		procedures.		worksites	
		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
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		Any unused chemicals or those with remaining functional capacity should be recycled.	Contractor	All relevant worksites	Not Applicable
		Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	Contractor	All relevant worksites	Not Applicable
		<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	Not Applicable

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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



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Contractor	All relevant worksites	Not Applicable
		Skip hoist for material transport should be totally enclosed by impervious sheeting.	Contractor	All relevant worksites	Not Applicable
		Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.	Contractor	All relevant worksites	Not Applicable
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		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	Not Applicable
		<u>Chemical Waste</u>			

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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



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		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	Not Applicable
		<u>General Refuse</u>			
		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
<u>Land Contamination Measures</u>					
		<u>For any excavation works conducted at Radar Station</u>			
		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
<u>Landscape and Visual Impact</u>					
		<u>New Distributor Roads Serving the Planned KTD</u>			
		<u>Construction Phase</u>			
		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	Contractor	All relevant	Not Applicable

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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



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.		worksites	
		Control of night-time lighting.	Contractor	All relevant worksites	Not Applicable
		Erection of decorative screen hoarding.	Contractor	All relevant worksites	Not Applicable
		<u>Trunk Road T2</u>			
		<u>Construction Phase</u>			
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	Not Applicable
		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	Not Applicable
		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
<u>General Condition</u>					



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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



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

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 F**

#### **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)		
January 2021						
1	1025.5	15.0	11.8	8.6	40	0
2	1022.9	17.8	14.0	10.4	52	0
3	1021.9	20.6	16.7	13.4	65	0
4	1021.0	20.7	18.3	16.9	66	0
5	1020.1	21.9	18.8	17.3	65	0
6	1020.0	19.6	17.1	16.0	72	0
7	1020.8	18.3	15.3	10.6	67	0
8	1025.0	10.7	9.1	7.7	52	0
9	1024.5	13.1	10.7	8.0	38	0
10	1023.5	15.2	12.8	11	40	0
11	1025.8	12.4	10.6	9.2	44	0
12	1023.6	15.7	11.9	8.6	33	0
13	1019.8	17.8	13.4	10.4	48	0
14	1017.8	19.5	15.2	11.8	55	0
15	1016.1	20.9	17.3	14.6	59	0
16	1017.4	20.3	17.6	15.8	68	0
17	1023.5	19.6	16.6	14.1	58	0
18	1023.3	17.3	14.2	11.7	53	0
19	1020.3	17.4	15.4	12.6	64	0
20	1018.1	21.4	18.2	16.1	69	0
21	1015.6	22.8	20.1	17.6	73	0
22	1013.4	24.5	20.3	18.2	80	0
23	1014.0	24.4	20.2	17.7	78	0
24	1017.1	20.0	18.4	17.3	83	Trace
25	1017.6	22.9	19.2	16.9	74	0
26	1016.9	23.5	19.6	17.4	78	0
27	1017.8	21.9	18.9	17.6	77	0
28	1020.7	22.8	19.1	16.5	70	0
29	1022.6	19.7	16.6	14.3	60	0
30	1022.5	19.5	16.7	14.8	68	0
31	1021.6	21.6	18.4	16.0	67	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 G**

#### **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 Feb 2017	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 H**

#### **Summary of Site Audit in the Reporting Month**

**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		NA	
Land Contamination		NA	
Landscape and Visual Impact		NA	
General Condition		NA	
Permit / Licenses		NA	

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Hong Kong.

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E-mail : mcl@fugro.com



### **Appendix I**

#### **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 <b>Appendix M</b> .
Noise	NA	
Water Quality	NA	
Chemical and Waste Management	NA	
Land Contamination	NA	
Landscape and Visual Impact	NA	
General Condition	NA	
Others	NA	

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### **Appendix J**

#### **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 (µg/m <sup>3</sup> )	Limit Level (µg/ m <sup>3</sup> )
24-hr TSP (µg/m <sup>3</sup> )	KTD1	177	260
	KTD2c	157	
	KER1	172	
*1-hr TSP (µg/m <sup>3</sup> )	KTD1	285	500
	KTD2c	279	
	KER1	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	KTD1 KTD2c KER1	When one documented complaint is received	75 dB(A)