

# Civil Engineering and Development Department

EP-337/2009 & EP-445/2013/A

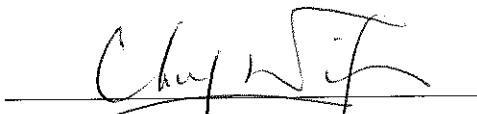
Contract No. KL/2014/01

**Kai Tak Development –  
Stage 2 Infrastructure works for Developments at  
Southern Part of the Former Runway**

Quarterly EM&A Report

January 2017 to March 2017

(Version 1.0)

Approved By	 (Environmental Team Leader)
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REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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## **EXECUTIVE SUMMARY**

### **Introduction**

1. This is the 4<sup>th</sup> Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the “Contract No. KL/2014/01 - Kai Tak Development – Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway” (Hereafter referred to as “the Project”). This contract work comprises two Schedule 2 designated project (DP), namely the new distributor road D4(part) and roads D3A & D4A serving the planned KTD. The DPs are part of the designated projects under Environmental Permits (EP) No.: EP-337/2009 (“New distributor roads serving the planned Kai Tak Development”) and EP-445/2013/A (“Kai Tak Development – Roads D3A & D4A”) respectively. This summary report presents the EM&A works performed in the period between 1 January 2017 and 31 March 2017.
2. With reference to the same principle of EIA report of the Project, no air quality monitoring station within 500m and noise monitoring station within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, no relevant air quality and noise monitoring location are required for monitoring under the Project. The monitoring works for recommended monitoring stations in EM&A Manual of the DPs are conducted by Kai Tak Development (KTD) Schedule 3 Project, which is on-going starting from December 2010.
3. The construction activities undertaken in the reporting quarter were:
  - Watermain works;
  - Construction of boundary wall at EPD recycling centre;
  - Bored piles and Pre-bored socketed H-piles;
  - TTA implementation at Shing Fung Road and Wang Chiu Road / Sheung Yee Road;
  - Open excavation for box culvert, piles caps and underpass;
  - ELS installation for box culvert and underpass; and
  - Construction of pile caps, sewer and manholes.

### **Environmental Monitoring Works**

4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
5. Summary of the non-compliance in the reporting quarter for the Project is tabulated in Table I.

**Table I Non-compliance Record for the Project in the Reporting Quarter**

Parameter	No. of Exceedance		Action Taken
	Action Level	Limit Level	
July 2016			
Noise	0	0	N/A
August 2016			
Noise	0	0	N/A
September 2016			
Noise	0	0	N/A

6. No monitoring for air quality and construction noise is required. No Action/Limit Level exceedance was recorded.

### Environmental Licenses and Permits

7. Licenses/Permits granted to the Project include the Environmental Permits (EP) for the Project, EP-337/2009 issued on 23 April 2009 and EP-445/2013 issued on 3 May 2013 (Amended Environmental Permit (No.: EP-445/2013/A) issued on 13 August 2014).
8. Billing Account for Disposal of Construction Waste (A/C No. 7024073)
9. Registration of Chemical Waste Producer (License: 5213-247-C4004-01).
10. Water Discharge License (License No.: WT00023634-2016).
11. Construction Noise Permit (License No.: GW-RE1092-16 and GW-RE 1251-16).

### Key Information in the Reporting Quarter

12. Summary of key information in the reporting quarter is tabulated in Table II.

**Table II Summary Table for Key Information in the Reporting Quarter**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Reporting Changes	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

13. Environmental monitoring works for the Project are considered effective and is generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

## 1. INTRODUCTION

### Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, 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. It covers a land area of about 328 hectares. Stage 2 Infrastructure Works for Developments for Southern Part of the Former Runway is one of the construction stages of KTD. It contains two Schedule 2 DPs including new distributor roads serving the planned KTD and KTD Roads D3A & D4A. The general layout of the Project is shown in **Figure 1**.
- 1.2 One Environmental Permits (EP) No.: EP-337/2009 was issued on 23 April 2009 for new distributor roads serving the planned KTD and one Environmental Permit No.: EP-445/2013 was issued on 3 May 2013 for Kai Tak Development Roads D3A & D4A to Civil Engineering and Development Department (CEDD) as the Permit Holder. Pursuant to Section 13 of the EIAO, the Director of Environmental Protection amended the Environmental Permit No.: EP-445/2013 based on the Application No. VEP-449/2014 and the Environmental Permit (No.: EP-445/2013/A) was issued on 13 August 2014.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Reports (Register No. AEIAR-130/2009 and AEIAR-170/2013) were approved by the Environmental Protection Department (EPD) on 4 March 2009 and 3 May 2013 respectively.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2014/01 – Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway. The construction work under KL/2014/01 comprises the construction of part of the Road D4 under the EP (EP-337/2009) and the construction of Roads D3A & D4A under the EP (EP-445/2013/A).
- 1.5 Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of this Contract is on 13 April 2016. This summary report presents the EM&A works performed in the period between 1 January 2017 and 31 March 2017.

## Project Organizations

- 1.6 Different parties with different levels of involvement in the project organization include:
- Project Proponent – Civil Engineering and Development Department (CEDD).
  - The Supervising Officer and the Supervising Officer’s Representative (SO) – AECOM Asia Co. Ltd. (AECOM).
  - Environmental Team (ET) – Cinotech Consultants Limited (CCL).
  - Independent Environmental Checker (IEC) – Ka Shing Management Consultant Ltd. (KSMC).
  - Contractor – Continental Engineering Corp. and Chit Cheung Construction Co. Ltd. Joint Venture (CCJV).
- 1.7 The key contacts of the Project are shown in **Table 1.1**.

**Table 1.1 Key Project Contacts**

Party	Role	Contact Person	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. Ronald Siu	Senior Engineer	2301 1453	2301 1277
		Mr. Bernard Chan	Engineer	2301 1207	
AECOM	Supervising Officer	Mr. Clive Cheng	CRE	3746 1801	2798 0783
Cinotech	Environmental Team	Dr. Priscilla Choy	Environmental Team Leader	2151 2089	3107 1388
		Ms. Ivy Tam	Audit Team Leader	2151 2090	
KSMC	Independent Environmental Checker	Dr. C. F. Ng	IEC	2618 2166	2120 7752
CCJV	Contractor	Mr. Dennis Ho	Environmental Officer	2960 1398	2960 1399

## 2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

### Monitoring Parameters and Monitoring Locations

- 2.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise, landscape and visual due to the Project. With reference to the same principle of EIA report of the Project, no air quality monitoring station within 500m and no construction noise monitoring station within 300m from the boundary of this Project are considered as relevant monitoring locations. No air quality and noise monitoring is required for the Project.

### Monitoring Methodology

- 2.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual.

### Environmental Quality Performance Limits (Action and Limit Levels)

- 2.3 Should the environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix A**.

### Implementation Status of Environmental Mitigation Measures

- 2.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for the Contractor to implement. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix B**.

### Site Audit Summary

- 2.5 Site audits were carried out on a weekly basis. During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made during the reporting period are summarized in **Appendix C**.

### Status of Waste Management

- 2.6 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix D**.



### **3. MONITORING RESULTS**

#### **Air Quality and Construction Noise**

- 3.1 No monitoring for air quality and construction noise is required for the Project.
- 3.2 Site audits were carried out to monitor and audit the timely implementation of air quality and noise mitigation measures under the Project on a weekly basis. No non-compliance of the air quality impact and noise impact was recorded in the reporting quarter.

#### **Landscape and Visual**

- 3.3 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures under the Project. No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

#### **4. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)**

##### **Summary of Exceedances**

- 4.1 A summary of exceedances is attached in **Appendix E**. The details of each exceedance were attached in the Monthly EM&A Reports.

##### *Air Quality and Construction Noise*

- 4.2 No monitoring for air quality and noise impact is required under the Project. No Action/Limit Level exceedance was recorded in the reporting quarter.

##### *Landscape and Visual*

- 4.3 No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

##### **Review of the Reasons for and the Implications of Non-compliance**

- 4.4 There was no non-compliance from the site audits in the reporting quarter. The observations and recommendations made in each individual site audit session were attached in the **Appendix C**.

##### **Summary of Environmental Complaints and Prosecutions**

- 4.5 No environmental complaint was received during the reporting quarter.
- 4.6 No warning, summon and notification of successful prosecution was received in the reporting period.
- 4.7 There were no environmental complaints, warnings, summons and successful prosecutions received since the commencement of the Project.

## **5. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS**

### **Effectiveness of Mitigation Measures**

- 5.1 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.
- 5.2 The Contractor has implemented the recommended mitigation measures except those mitigation measures not applicable at this stage.
- 5.3 Environmental monitoring works were performed in the reporting quarter and all monitoring results were checked and reviewed. No non-compliance (exceedances) of Action/Limit Level was recorded.
- 5.4 No environmental complaints and environmental prosecution were received in the reporting quarter.

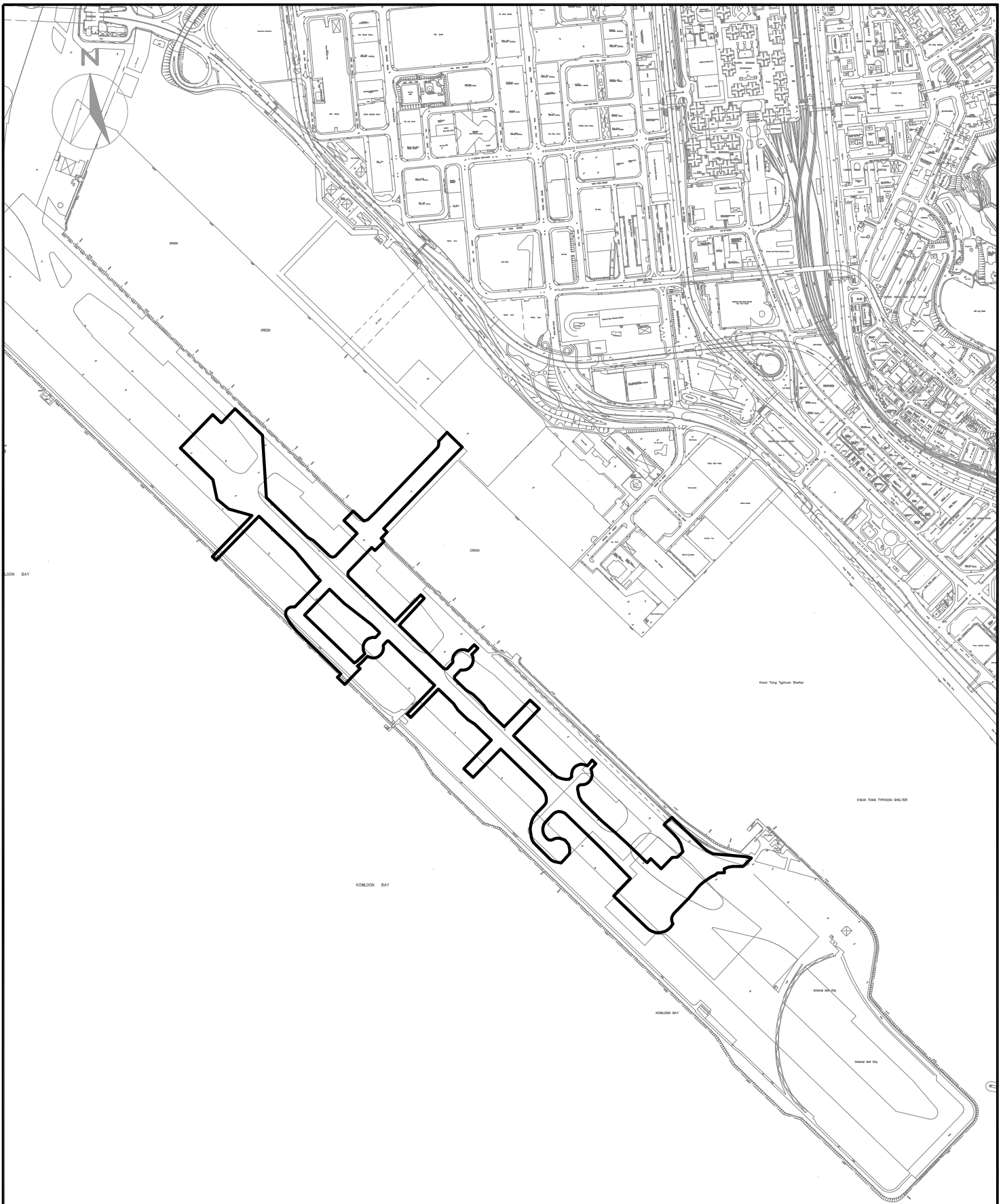
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**FIGURE(S)**

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LEGEND:	
	SITE BOUNDARY

**CINOTECH**  
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KL/2014/01 KAI TAK DEVELOPMENT - STAGE 2  
INFRASTRUCTURE WORKS FOR DEVELOPMENT AT  
SOUTHERN PART OF THE FORMER RUNWAY

**SITE LAYOUT PLAN**

SCALE	1:1000@A4	DATE	MAY 2016
CHECK	JL	DRAWN	JW
JOB No.	MA15046	FIGURE NO.	1
		REV	-

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**APPENDIX A  
ACTION AND LIMIT LEVELS**

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## Appendix A - Action and Limit Levels

**Table A-1 Action and Limit Levels for Construction Noise**

<b>Time Period</b>	<b>Action Level</b>	<b>Limit Level<sup>(1)(2)</sup></b>
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

Remarks: (1) If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

(2) No regular noise impact monitoring station for this Contract. It is subject to the noise sensitive receiver(s) and additional monitoring work.

(\*) 70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

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**APPENDIX B  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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**Appendix B - Summary of Implementation Schedule of Mitigation Measures for Construction Phase**

EIA Ref.	Mitigation Measures	Status
<b>Construction Air Quality</b>		
S3.2 (AEIAR-130/2009)	8 times daily watering of the work site with active dust emitting activities.	^
S4.8 (AEIAR-170/2013)	Control measures stipulated in the approved KTD Schedule 3 EIA Report should be strictly followed.	^
S3.2 (AEIAR-130/2009) and S4.8 (AEIAR-170/2013)	<p>Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts.</p> <ul style="list-style-type: none"> <li>● Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.</li> <li>● Misting for the dusty material should be carried out before being loaded into the vehicle.</li> <li>● Any vehicle with an open load carrying area should have properly fitted side and tail boards.</li> <li>● 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.</li> <li>● 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.</li> <li>● The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials.</li> <li>● Vehicle washing facilities should be provided at every vehicle exit point.</li> </ul>	<p>*</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

EIA Ref.	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>● 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.</li> <li>● 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.</li> <li>● Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides; and</li> <li>● Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>	<p>^</p> <p>*</p> <p>^</p> <p>^</p>
<b>Construction Noise</b>		
S3.3 (AEIAR-130/2009)	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump.	^
S3.3 (AEIAR-130/2009)	<p>Good Site Practice:</p> <ul style="list-style-type: none"> <li>● Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.</li> <li>● Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>● Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>● Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li>● Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> <li>● Material stockpiles and other structures should be effectively utilized, wherever</li> </ul>	<p>^</p> <p>N/A(1)</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

EIA Ref.	Mitigation Measures	Status
	practicable, in screening noise from on-site construction activities.	
S3.3 (AEIAR-130/2009)	Scheduling of Construction Works during School Examination Period	N/A
S3.8 (AEIAR-170/2013)	Provision of a landscaped deck along Roads D3A & D4A.	N/A
S3.8 (AEIAR-170/2013)	<ul style="list-style-type: none"> <li>● Provision of about 1090 m length of vertical noise barrier (connected to the deck) at Roads D3A &amp; D4A;</li> <li>● Provision of about 60 m length of overhang vertical noise barrier (connected to the deck) at Road D4A; and</li> <li>● Provision of staircases with noise barriers next to Sites 4A1 and 4B1</li> </ul> <p>It should be noted that the exact length of the mitigation measures would be subject to minor refinement during the detailed design stage.</p>	N/A N/A N/A
S3.8 (AEIAR-170/2013)	Non-noise sensitive use areas within Sites 4A1 and 4B1.	N/A
S3.8 (AEIAR-170/2013)	Avoid sensitive façade with openable window facing Road D3A.	N/A
<b>Construction Water Quality</b>		
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	<p><u>Construction Runoff</u></p> <p>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:</p> <ul style="list-style-type: none"> <li>● use of sediment traps</li> <li>● adequate maintenance of drainage systems to prevent flooding and overflow</li> </ul>	^ ^

EIA Ref.	Mitigation Measures	Status
	Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	*
	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.	^
S5.8 (AEIAR-170/2013)	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	^
	Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	^
S3.4 (AEIAR-130/2009)	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	^

EIA Ref.	Mitigation Measures	Status
	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.	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	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.	^
	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.	^
S3.4 (AEIAR-130/2009)	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.	^
	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.	^
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting	*

EIA Ref.	Mitigation Measures	Status
	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.	
S5.8 (AEIAR-170/2013)	<p><u>Boring and Drilling Water</u> Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.</p>	^
	<p><u>Acid Cleaning, Etching and Pickling Wastewater</u> Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers</p>	^
S3.4 (AEIAR-130/2009)	<p><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.</p>	^
S3.4 (AEIAR-130/2009)	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.	^

EIA Ref.	Mitigation Measures	Status
S3.4 (AEIAR-130/2009)	All fuel tanks and storage areas should be provided with locks and be located 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.	^
S5.8 (AEIAR-170/2013)	There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distance of 100 m should be maintained between the discharge points of construction site effluent and the existing seawater intakes and the planned WSR mentioned in S5.3.1 as appropriate. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence which is under the ambit of regional office (RO) of EPD.	^
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	<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.	^
S5.8	Notices should be posted at conspicuous locations to remind the workers not to discharge	^

EIA Ref.	Mitigation Measures	Status
(AEIAR-170/2013)	any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site will provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures.	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	<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.	^
	<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.	^
S5.8 (AEIAR-170/2013)	<u>Accidental Spillage</u>  Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	^



EIA Ref.	Mitigation Measures	Status
	<p>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</p> <ul style="list-style-type: none"> <li>● Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>● Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>● Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	<p>^</p> <p>^</p> <p>^</p> <p>^</p>
<b>Construction Waste Management</b>		
<p>S6.7 (AEIAR-170/2013)</p>	<p>Prepare a Waste Management Plan, which becomes a part of the Environmental Management Plan, in accordance with the requirements stipulated in ETWB TC(W) No. 19/2005, approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites.</p>	<p>^</p>
<p>S3.5 (AEIAR-130/2009) and S6.7 (AEIAR-170/2013)</p>	<p><b>Good Site Practices</b> It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include:</p> <ul style="list-style-type: none"> <li>● 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</li> <li>● Training of site personnel in proper waste management and chemical waste handling procedures</li> <li>● Provision of sufficient waste disposal points and regular collection for disposal</li> </ul>	<p>^</p> <p>^</p>

EIA Ref.	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>● Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers</li> <li>● A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites)</li> <li>● Regular cleaning and maintenance systems, sumps and oil interceptors</li> <li>● Separation of chemical wastes for special handling and appropriate treatment</li> </ul>	<p>^</p> <p>^</p> <p>^</p> <p>^</p>
	<p>Waste Reduction Measures</p> <p>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>● Sort C&amp;D waste from demolition of the remaining structures to recover recyclable portions such as metals</li> <li>● 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</li> <li>● Encourage collection of aluminium 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</li> <li>● Any unused chemicals or those with remaining functional capacity should be recycled</li> <li>● Proper storage and site practices to minimise the potential for damage or contamination of construction materials</li> <li>● Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste</li> <li>● Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.</li> </ul>	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

EIA Ref.	Mitigation Measures	Status
<p>S3.5 (AEIAR-130/2009)</p>	<p>Construction and Demolition Materials</p> <p>Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&amp;D material. The mitigation measures include:</p> <ul style="list-style-type: none"> <li>● Where it is unavoidable to have transient stockpiles of C&amp;D material within the Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible.</li> <li>● Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.</li> <li>● Skip hoist for material transport should be totally enclosed by impervious sheeting.</li> <li>● Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.</li> <li>● 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.</li> <li>● 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.</li> <li>● All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.</li> <li>● The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.</li> </ul> <p>When delivering inert C&amp;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&amp;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</p>	<p>^</p> <p>*</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

EIA Ref.	Mitigation Measures	Status
	System for Disposal of Construction and Demolition Materials” should be included as one of the contractual requirement sand 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.	
S3.5 (AEIAR-130/2009)	<p>General Refuse</p> <p>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;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</p>	^
<b>Construction Landscape and Visual</b>		
S3.8.12 (AEIAR-130/2009) and S7.9 (AEIAR-170/2013)	<ul style="list-style-type: none"> <li>● Minimized construction area and contractor’s temporary works areas.</li> <li>● All existing trees should be carefully protected during construction.</li> <li>● Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.</li> <li>● Control of night-time lighting.</li> <li>● Erection of decorative screen hoarding.</li> <li>● Reduction of construction period to practical minimum.</li> <li>● Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas.</li> <li>● Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open.</li> </ul>	<p>^</p> <p>^</p> <p>^</p> <p>N/A(1)</p> <p>^</p> <p>^</p> <p>^</p> <p>N/A</p>

Remarks:	EIA Report (AEIAR-130/2009) – Kai Tak Development	
	EIA Report (AEIAR-170/2013) – Kai Tak Development – Roads D3A & D4A	
	^ Compliance of mitigation measure;	X Non-compliance of mitigation measure;
	N/A Not Applicable at this stage; N/A(1) Not observed;	• Non-compliance but rectified by the contractor;
* Recommendation was made during site audit but improved/rectified by the contractor.		

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**APPENDIX C**  
**SITE AUDIT SUMMARY**

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## Appendix C Summary of Observation and Recommendation Made during Site Inspection

### *Summary of Observation and Recommendation Made during Site Inspection in January 2017*

<b>Parameters</b>	<b>Date</b>	<b>Observations and Recommendations</b>	<b>Follow-up</b>
<i>Water Quality</i>	25 Jan 2017	Appropriate signage should be provided at wheel washing machine to remind all drivers to perform wheel washing before leaving the Site.	Rectification/improvement was observed during the follow-up audit session.
<i>Air Quality</i>	28 Dec 2016	Bagged cement should be properly covered in Section 2 for dust suppression.	Rectification/improvement was observed during the follow-up audit session.
	04 Jan 2017	Stockpiles in Section 1 should be covered with impervious materials to prevent dust generation.	Rectification/improvement was observed during the follow-up audit session.
	04 Jan 2017	Water spraying on haul roads should be provided more frequently in Section 1 for dust suppression.	Rectification/improvement was observed during the follow-up audit session.
	11 Jan 2017	Tarpaulin coverage should be provided to stockpiles in Section 2 to prevent dust generation.	Rectification/improvement was observed during the follow-up audit session.
<i>Noise</i>	--	--	--
<i>Waste/ Chemical Management</i>	--	--	--
<i>Landscape and Visual</i>	--	--	--
<i>Permits/ Licences</i>	--	--	--

**Summary of Observation and Recommendation Made during Site Inspection in February 2017**

<b>Parameters</b>	<b>Date</b>	<b>Observations and Recommendations</b>	<b>Follow-up</b>
<i>Water Quality</i>	25 Jan 2017	Appropriate signage should be provided at wheel washing machine to remind all drivers to perform wheel washing before leaving the Site.	Rectification/improvement was observed during the follow-up audit session.
	22 Feb 2017	<u>Reminder:</u> Sandbag bund at Gate 5A should be enhanced to prevent silty runoff.	Rectification/improvement was observed during the follow-up audit session.
<i>Air Quality</i>	2 Feb 2017	<u>Reminder:</u> Dusty materials of stockpiles should be covered by impervious sheet after works.	Rectification/improvement was observed during the follow-up audit session.
	8 Feb 2017	<u>Reminder:</u> Black smoke emission by the PME at Gate 5A should be avoided.	Rectification/improvement was observed during the follow-up audit session.
	15 Feb 2017	<u>Reminder:</u> Water spraying should be performed more frequently in Section 1 for dust suppression.	Rectification/improvement was observed during the follow-up audit session.
<i>Noise</i>	--	--	--
<i>Waste/ Chemical Management</i>	--	--	--
<i>Landscape and Visual</i>	--	--	--
<i>Permits/ Licences</i>	--	--	--



***Summary of Observation and Recommendation Made during Site Inspection in March 2017***

<b>Parameters</b>	<b>Date</b>	<b>Observations and Recommendations</b>	<b>Follow-up</b>
<b><i>Water Quality</i></b>	22 Feb 2017	Sandbag bund should be provided at Gate 5A to prevent silty runoff.	Rectification/improvement was observed during the follow-up audit session.
<b><i>Air Quality</i></b>	1 Mar 2017	Stockpiles in Section 1 should be properly covered by impervious sheets for dust suppression.	Rectification/improvement was observed during the follow-up audit session.
	15 Mar 2017	Dark smoke emitted by PME in Section 1 should be avoided.	Rectification/improvement was observed during the follow-up audit session.
	22 Mar 2017	Impervious sheets for stockpiles coverage should be maintained more frequently.	Rectification/improvement was observed during the follow-up audit session.
<b><i>Noise</i></b>	--	--	--
<b><i>Waste/ Chemical Management</i></b>	--	--	--
<b><i>Landscape and Visual</i></b>	--	--	--
<b><i>Permits/ Licences</i></b>	--	--	--

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**APPENDIX D**  
**WASTE GENERATED QUANTITY**

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### Appendix 5. Monthly Summary Waste Flow Table

Name of Department: CEDD

Contract No.: KL/2014/01

#### Monthly Summary Waste Flow Table for 2017

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in tonne)
Jan	15470.22	0	0	0	15470.22	0	0	0.301	0.019	0	53.3
Feb	23173.51	0	0	0	23173.51	0	0	0	0	0	9.2
Mar	27239.72	0	0	0	27239.72	0	0	0	0	0	76.6
Apr											
May											
June											
Sub-total	65883.45	0	0	0	65883.45	0	0	0.301	0.019	0	139.1
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	65883.45	0	0	0	65883.45	0	0	0.301	0.019	0	139.1

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**APPENDIX E**  
**SUMMARY OF EXCEEDANCES**

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**Contract No. KL/2014/01**

**Kai Tak Development –Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway**

**Appendix E – Summary of Exceedance**

**Exceedance Record for Contract No. KL/2014/01**

Report period: January 2017 to March 2017

**(A) Exceedance Record for Construction Noise**

**(NIL in the reporting period)**

**(B) Exceedance Record for Landscape and Visual**

**(NIL in the reporting period)**