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

Monthly EM&A Report June 2018

(Version 1.0)

Approved By

(Environmental Team Leader)

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

CINOTECH CONSULTANTS LTD

Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk

TABLE OF CONTENTS

	EXECUTIVE SUMMARY Introduction Environmental Monitoring Works Environmental Licenses and Permits Key Information in the Reporting Month Future Key Issues	1 2 2
1.	INTRODUCTION	3
	Background Project Organizations Construction Activities undertaken during the Reporting Month Summary of EM&A Requirements	4 4
2.	AIR QUALITY	6
	Monitoring Requirements Observations	
3.	NOISE	7
	Monitoring Requirements Observations	
4.	LANDSCAPE AND VISUAL	8
	Monitoring Requirements Results and Observations	
5.	ENVIRONMENTAL AUDIT	9
	Site Audits Status of Environmental Licensing and Permitting Status of Waste Management Implementation Status of Environmental Mitigation Measures Summary of Mitigation Measures Implemented Implementation Status of Event Action Plans Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution	9 10 10
6.	FUTURE KEY ISSUES	12
	Key Issues for the Coming Month	
7.	CONCLUSIONS AND RECOMMENDATIONS	14
	Conclusions	

LIST OF TABLES

Гable I	Non-compliance Recorded for the Project in the Reporting Month
Гable II	Summary Table for Key Information in the Reporting Month
Гable 1.1	Key Project Contacts
Γable 1.2	Construction Programme Showing the Inter-Relationship with Environmental
	Protection/Mitigation Measures
Γable 5.1	Summary of Environmental Licensing and Permit Status
Γable 5.2	Observations and Recommendations of Site Inspections

LIST OF FIGURES

Figure 1 Site Layout Plan

LIST OF APPENDICES

A	Action and Limit Levels
В	Summary of Exceedance
C	Site Audit Summary
D	Event Action Plans
E	Environmental Mitigation Implementation Schedule (EMIS)
F	Summaries of Environmental Complaint, Warning, Summon and Notification
	of Successful Prosecution
G	Waste Generated Quantity

Monthly EM&A Report – June 2018

EXECUTIVE SUMMARY

Introduction

- 1. This is the 27th Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "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 projects (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 report documents the findings of EM&A Works conducted from 1 - 30 June 2018.
- 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.
- 3. The major site activities undertaken in the reporting month included:
 - TTA implementation, junction improvement works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
 - ELS installation and construction of box culvert and underpass;
 - Construction of utilities trough at Kai Tak Bridge;
 - Construction of pile caps, noise barrier footings and steel structure, outfalls, deck structure and columns;
 - Laying of sewer, drainage and pavement; and
 - Erection of noise barrier steel structure and panels.

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 month for the Project is tabulated in Table I.

Non-compliance Recorded for the Project in the Reporting Month Table I

Parameter	No. of Project-rela	ted Exceedance	Action Taken
1 at afficted	Action Level	Limit Level	Action Taken
Noise	0	0	N/A

Environmental Monitoring for Air Quality and Construction Noise

6. No monitoring for air quality and construction noise is required. No Action/Limit Level 1

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: WT00023634-2016).
- 11. Construction Noise Permits (Permit: GW-RE0182-18)

Key Information in the Reporting Month

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

Table II Summary Table for Key Information in the Reporting Month

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	

Future Key Issues

- 13. The future key environmental issues in the coming month include:
 - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
 - Water spraying for dust generating activity and on haul road;
 - Proper storage of construction materials on site;
 - Storage of chemicals/fuel and chemical waste/waste oil on site;
 - Accumulation of general and construction waste on site;
 - Noise from operation of the equipment, especially for excavation activities and machinery on-site;
 - Wastewater and runoff discharge from site;
 - Regular removal of silt, mud and sand along u-channels and sedimentation tanks; and
 - Review and implementation of temporary drainage system for the surface runoff.

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 Permit (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 Department 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 is the 27th Monthly EM&A report summarizing the EM&A works for the Project from 1 30 June 2018.
- 1.6 All project information since the commencement of work under EPs including Monthly EM&A Reports is made available to the public via internet access at the website: http://www.kl201401.com/

Project Organizations

- 1.7 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).
- 1.8 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	Mr. Sunny Lo	Senior Engineer	3579 2450	3579 4516
CEDD	Proponent	Mr. Keith Chu	Engineer	3579 2124	3379 4310
AECOM	Supervising Officer	Mr. Clive Cheng	CRE	3746 1801	2798 0783
	. Environmental	Dr. Priscilla Choy	Environmental Team Leader	2151 2089	2407 4200
Cinotech	Team	Ms. Ivy Tam	Audit Team Leader	2151 2090	3107 1388
KSMC	Independent Environmental Checker	Dr. C. F. Ng	IEC	2618 2166	2120 7752
CCJV	CCJV Contractor Mr. Dennis Ho		Environmental Officer	2960 1398	2960 1399

Construction Activities undertaken during the Reporting Month

- 1.9 The site activities undertaken in the reporting month included:
 - TTA implementation, junction improvement works at Shing Fung Road, Wang Chiu Road / Sheung Yee Road and Wang Chiu Road / Kai Cheung Road;
 - ELS installation and construction of box culvert and underpass;
 - Construction of utilities trough at Kai Tak Bridge;
 - Construction of pile caps, noise barrier footings and steel structure, outfalls, deck structure and columns;
 - Laying of sewer, drainage and pavement; and
 - Erection of noise barrier steel structure and panels.
- 1.10 The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in Table 1.2.

Monthly EM&A Report – June 2018

Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

Construction Works	Major Environmental Impact	Control Measures
As mentioned in Section 1.8	Noise, dust impact, water quality and waste generation	Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system; Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained construction plant; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; Provide mitigation measure to temporary use of chemicals; Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.

Summary of EM&A Requirements

- 1.11 The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.
- 1.12 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of this report.

2. AIR QUALITY

Monitoring Requirements

2.1 With reference to the same principle of EIA report of the Project, no air quality monitoring station within 500m from the boundary of this Project are considered as relevant monitoring locations. No air quality monitoring is required for the Project.

Observations

- 2.2 No monitoring for air quality is required for the Project.
- 2.3 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of air quality mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C.**

3. NOISE

Monitoring Requirements

3.1 With reference to the same principle of EIA report of the Project, no construction noise monitoring station within 300m from the boundary of this Project are considered as relevant monitoring locations. No Construction noise monitoring is required for the Project. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Observations

- 3.2 No monitoring for construction noise is required for the Project. No Action/Limit Level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix B**.
- 3.3 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of construction noise mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C**.

4. LANDSCAPE AND VISUAL

Monitoring Requirements

4.1 According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

Results and Observations

- 4.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C**.
- 4.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 4.4 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix D** shall be performed.

5. ENVIRONMENTAL AUDIT

Site Audits

- 5.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix C**.
- 5.2 Site audits were conducted by representatives of the Contractor, Supervising Officer and ET on 6, 13, 20 and 27 June 2018 in the reporting month. IEC joint site inspection was conducted on 27 June 2018. No non-compliance was observed during the site audits.

Status of Environmental Licensing and Permitting

5.3 All permits/licenses obtained for the Project are summarized in Table 5.1.

Table 5.1 Summary of Environmental Licensing and Permit Status

Dameid Na	Valid Period		D.A. II.	C4 - 4
Permit No.	From	To	Details	Status
Environmental Peri	mit (EP)			
EP-337/2009	23/04/09	N/A	Construction of new distributor roads serving the planned Kai Tak development.	
EP-445/2013/A	13/08/14	N/A	Construction of Kai Tak Development roads D3A and D4A	Valid
Effluent Discharge Li	cense			
WT00023634-2016	1	31/03/21	Wastewater from the construction site including effluent treated by screen and sedimentation tank	Valid
Registration of Chem	ical Waste P	roducer		
5213-247-C4004-01		N/A		
Construction Noise P	ermit (CNP)	1		
GW-RE0182-18	22/03/18	17/09/18	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work other than percussive pilling and performing prescribed construction work.	Valid

Status of Waste Management

- 5.4 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix G**.
- 5.5 In respect of the dump truck cover, the Contractor is reminded to take record photos and inspection to ensure that all dump trucks have fully covered the skip before leaving the site.

Implementation Status of Environmental Mitigation Measures

5.6 During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in Table 5.2.

 Table 5.2
 Observations and Recommendations of Site Inspections

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality			
	20 June 2018	Reminder: Provide mitigation measure for dust suppression during loading/unloading of dusty material at Area 3.	The condition was observed to be improved/rectified by the contractor during the audit session on 27 June 2018
Air Quality	20 June 2018	Reminder: Properly cover the dusty stockpile at DCS Area.	The condition was observed to be improved/rectified by the contractor during the audit session on 27 June 2018
Air Quality	27 June 2018	Reminder: To clear/replace the damaged sand bag at near Cruise Terminal.	Follow up actions will be reported in the next reporting month.
	27 June 2018	Reminder: To provide sufficient water spray for haul road at near urban room B for dust suppression.	Follow up actions will be reported in the next reporting month.
Noise			
Waste/ Chemical Management			
Landscape and Visual			
Permits/ Licences			

Summary of Mitigation Measures Implemented

5.7 An updated summary of the EMIS is provided in **Appendix E**.

Implementation Status of Event Action Plans

5.8 The Event Action Plans for noise and landscape and visual are presented in **Appendix D**. No Event Action Plan for air quality is considered necessary.

Construction Noise

5.9 No Action/Limit Level exceedance was recorded in the reporting month.

Landscape and visual

5.10 No non-compliance was recorded in the reporting month.

Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

5.11 The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix F**.

6. FUTURE KEY ISSUES

- 6.1 Major site activities undertaken for the coming two months include:
 - TTA implementation, junction improvement works at Shing Fung Road, Wang Chiu Road / Sheung Yee Road and Wang Chiu Road / Kai Cheung Road;
 - ELS installation and construction of box culvert and underpass;
 - Construction of utilities trough at Kai Tak Bridge;
 - Construction of pile caps, noise barrier footings, outfalls, deck structure and columns;
 - Laying of sewer, drainage and pavement.

Key Issues for the Coming Month

- 6.2 Key environmental issues in the coming month include:
 - Wastewater and runoff discharge from site;
 - Regular removal of silt, mud and sand along u-channels and sedimentation tanks;
 - Review and implementation of temporary drainage system for the surface runoff;
 - Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
 - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
 - Water spraying for dust generating activity and on haul road;
 - Proper storage of construction materials on site;
 - Storage of chemicals/fuel and chemical waste/waste oil on site;
 - Accumulation of general and construction waste on site.
- 6.3 The tentative program of major site activities and the impact prediction and control measures for the coming two months, i.e. July and August 2018 are summarized as follows:

Construction Works	Major Impact Prediction	Control Measures
	Air quality impact (dust)	a) Frequent watering of haul road and unpaved/exposed areas;b) Frequent watering or covering stockpiles with tarpaulin or
		similar means; and
		c) Watering of any earth moving activities.
	Water quality	a) Diversion of the collected effluent to de-silting facilities
	impact (surface	for treatment prior to discharge to public storm water drains;
	run-off)	b) Provision of adequate de-silting facilities for treating
		surface run-off and other collected effluents prior to
		discharge;
As mentioned in		c) Provision of perimeter protection such as sealing of
Section 7.1		hoarding footings to avoid run-off from entering the
		existing storm water drainage system via public road; and
		d) Provision of measures to prevent discharge into the
		stream.

Construction Works	Major Impact	Control Measures	
	Prediction		
	Noise Impact	a) Scheduling of noisy construction activities if necessary to	
		avoid persistent noisy operation;	
		b) Controlling the number of plants use on site;	
		c) Regular maintenance of machines; and	
		d) Use of acoustic barriers if necessary.	

7. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

7.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 to 30 June 2018.

Air Quality and Construction Noise

7.2 No regular monitoring air quality and noise monitoring is required for the Project. No Action/Limit Level exceedance was recorded.

Landscape and visual

7.3 No non-compliance was recorded in the reporting month.

Complaint and Prosecution

- 7.4 No environmental complaints and environmental prosecution were received in the reporting month.
- 7.5 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

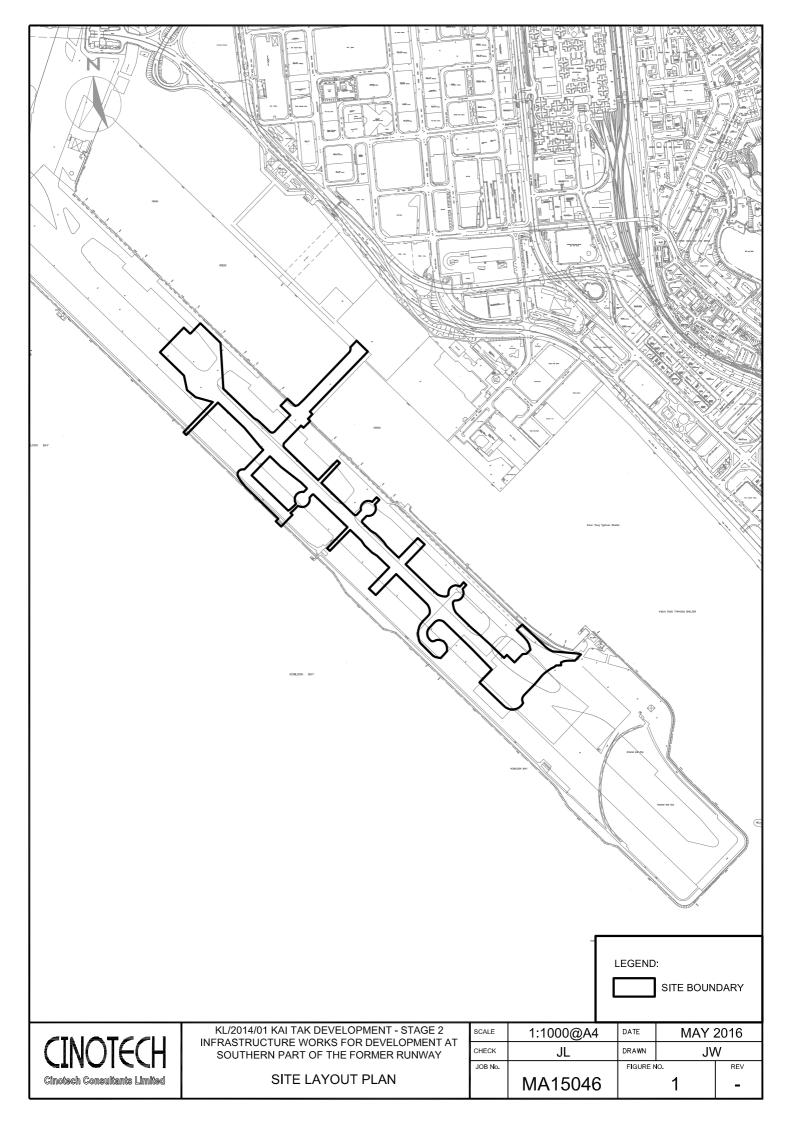
Recommendations

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

Air Quality

- To provide water spraying more frequently to haul roads or unpaved area for dust suppression.
- To provide mitigation measure for dust suppression during loading/unloading of dusty material.
- To properly cover the dusty stockpile at DCS Area.

FIGURES



APPENDIX A ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels

Table A-1 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level ⁽¹⁾⁽²⁾
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.

APPENDIX B SUMMARY OF EXCEEDANCE

Contract No. KL/2014/01 Kai Tak Development –Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

Appendix B – Summary of Exceedance

Exceedance Record for Contract No. KL/2014/01

Reporting Month: June 2018

(A) Exceedance Record for Construction Noise

(NIL in the reporting month)

(B) Exceedance Record for Landscape and Visual

(NIL in the reporting month)

APPENDIX C SITE AUDIT SUMMARY

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Checklist Reference Number	180606
Date	6 June 2018 (Wednesday)
	14:00 - 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	·
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit session (Ref. No.:180530), all identified deficiencies were observed improved/rectified by the Contractor.	

Name	Signature	Date
Kinson Poon	- fil	6 June 2018
Dr. Priscilla Choy	NA	8 June 2018
	Kinson Poon	Kinson Poon

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Checklist Reference Number	180613
Date	13 June 2018 (Wednesday)
Time	14:00 – 16:00

Ref. No.	Non-Compliance	Related Item No
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit session (Ref. No.:180606), all identified deficiencies were observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Kinson Poon	F	13 June 2018
Checked by	Dr. Priscilla Choy	WI	14 June 2018

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Checklist Reference Number	180620
Date	20 June 2018 (Wednesday)
Time	14:00 – 16:00

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	_
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
180620-R01	• Provide mitigation measure for dust suppression during loading/unloading of dusty material at Area 3.	C 13
180620-R02	Properly cover the dusty stockpile at DCS Area.	C 7
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
.′	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit session (Ref. No.:180613), no environmental deficiency was identified during site inspection	

	Name	Signature	Date
Recorded by	Kinson Poon	F	20 June 2018
Checked by	Dr. Priscilla Choy	NI	21 June 2018

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Checklist Reference Number	180627
	27 June 2018 (Wednesday)
Time	14:00 – 16:00

		Related
Ref. No.	Non-Compliance	Item No.
	None identified	-
Y		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
180627-R01	To clear/replace the damaged sand bag at near Cruise Terminal.	C 3
180627-R02	To provide sufficient water spray for haul road at near urban room B for dust suppression.	C 5
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit session (Ref. No.:180620), all identified deficiencies were observed improved/rectified by the Contractor.	

***************************************	Name	Signature	Date
Recorded by	Kinson Poon	1	27 June 2018
Checked by	Dr. Priscilla Choy	WI	28 June 2018

APPENDIX D EVENT ACTION PLANS

Appendix D - Event Action Plans

Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	 Notify ER, IEC and Contractor; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the IEC and Contractor on remedial measures required; Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified) 	Review the investigation results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the ER accordingly; Advise the ER on the effectiveness of the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	Confirm receipt of notification of failure in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	Submit noise mitigation proposals to IEC and ER; Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified)
Limit Level being exceeded	 Inform IEC, ER, Contractor and EPD; Repeat measurements to confirm findings; Increase monitoring frequency; Identify source and investigate the cause of exceedance; Carry out analysis of Contractor's working procedures; Discuss with the IEC, Contractor and ER on remedial measures required; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified) 	Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified)	Confirm receipt of notification of failure in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures; If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC and ER within 3 working days of notification; Implement the agreed proposals; Submit further proposal if problem still not under control; Stop the relevant portion of works as instructed by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)

Appendix D - Event Action Plans

Event/Action Plan for Landscape and Visual

EVENT ACTION	ACTION				
LEVEL	ET	IEC	ER	CONTRACTOR	
Design Check	Check final design conforms to the requirements of EP and prepare report.	Check report. Recommend remedial design if necessary	Undertake remedial design if necessary		
Non- conformity on one occasion	Identify Source Inform IEC and ER Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed	Check report Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures. Check implementatio n of remedial measures.	Notify Contractor Ensure remedial measures are properly implemented	Amend working methods Rectify damage and undertake any necessary replacement	
Repeated Non- conformity	Identify Source Inform IEC and ER Increase monitoring frequency Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed If non- conformity stops, cease additional monitoring	Check monitoring report Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures Supervise implementatio n of remedial measures.	Notify Contractor Ensure remedial measures are properly implemented	Amend working methods Rectify damage and undertake any necessary replacement	

APPENDIX E ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix E - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

EIA Ref.	Mitigation Measures	Status	
Construction Air Quality			
S3.2 (AEIAR-130/2009)	8 times daily watering of the work site with active dust emitting activities.	٨	
S4.8 (AEIAR-170/2013)	Control measures stipulated in the approved KTD Schedule 3 EIA Report should be strictly followed.	٨	
S3.2 (AEIAR-130/2009) and S4.8	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.		
(AEIAR-170/2013)	 Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. 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. 	^	
	• 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.	^	
	• 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.	^	
	• 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.	^	
	• Vehicle washing facilities should be provided at every vehicle exit point.	^	

EIA Ref.	Mitigation Measures	Status
	 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. 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. 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 Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. 	
Construction Noise		
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	Good Site Practice:	
(AEIAR-130/2009)	• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	^
	• Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.	۸
	 Mobile plant, if any, should be sited as far away from NSRs as possible. 	٨
	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.	۸
	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.	۸
	Material stockpiles and other structures should be effectively utilized, wherever	۸

EIA Ref.	EIA Ref. Mitigation Measures	
	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)	 Provision of about 1090 m length of vertical noise barrier (connected to the deck) at Roads D3A & D4A; Provision of about 60 m length of overhang vertical noise barrier (connected to the deck) at Road D4A; and Provision of staircases with noise barriers next to Sites 4A1 and 4B1 It should be noted that the exact length of the mitigation measures would be subject to minor refinement during the detailed design stage. 	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
Construction Water	Quality	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	 Construction Runoff 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: use of sediment traps adequate maintenance of drainage systems to prevent flooding and overflow 	^ ^

EIA Ref.	Mitigation Measures	Status
	Construction site should be provided with adequately designed perimeter channel and pretreatment 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.	٨
	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 ³ capacity, are recommended as a general mitigation measure	۸

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 ³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	^
	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.	۸
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)	Boring and Drilling Water 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.	۸
	Acid Cleaning, Etching and Pickling Wastewater 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	^
S3.4 (AEIAR-130/2009)	Drainage 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.	^
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.	٨

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.	٨			
S5.8 (AEIAR-170/2013)	There is a need to apply to EPD for a discharge licence for discharge of effluent from the				
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	Sewage Effluent 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	٨			

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)	Stormwater Discharges Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes.	^
	Debris and Litter 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)	Accidental Spillage 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			
	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: Suitable containers should be used to hold the chemical wastes to avoid leakage or	٨			
	 spillage during storage, handling and transport. Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. 	۸			
	• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	۸			
Construction Waste	Management				
S6.7 (AEIAR-170/2013)	.7 Prepare a Waste Management Plan, which becomes a part of the Environmental				
S3.5 (AEIAR-130/2009) and S6.7 (AEIAR-170/2013)	Good Site Practices 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: 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 Training of site personnel in proper waste management and chemical waste handling procedures	٨			
	Provision of sufficient waste disposal points and regular collection for disposal	٨			

EIA Ref.	Mitigation Measures	Status			
	Appropriate measures to minimise windblown litter and dust during transportation of	٨			
	waste by either covering trucks or by transporting wastes in enclosed containers				
	 A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) 	^			
	Regular cleaning and maintenance systems, sumps and oil interceptors	٨			
	Separation of chemical wastes for special handling and appropriate treatment	۸			
	Waste Reduction Measures				
	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:				
	 Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals 	۸			
	 Segregation and storage of different types of waste in different containers, skips or 	٨			
	stockpiles to enhance reuse or recycling of materials and their proper disposal				
	 Encourage collection of aluminium cans, PET bottles and paper by providing separate 	٨			
	labelled bins to enable these wastes to be segregated from other general refuse generated by the work force				
	 Any unused chemicals or those with remaining functional capacity should be recycled 	٨			
	 Proper storage and site practices to minimise the potential for damage or 	٨			
	contamination of construction materials				
	 Plan and stock construction materials carefully to minimize amount of waste 	۸			
	generated and avoid unnecessary generation of waste				
	• Training should be provided to workers about the concepts of site cleanliness and	٨			
	appropriate waste management procedures, including waste reduction, reuse and recycle.				

EIA Ref.	Mitigation Measures	Status
S3.5 (AEIAR-130/2009)	Construction and Demolition Materials Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include:	
	• Where it is unavoidable to have transient stockpiles of C&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.	^
	• Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	۸
	• Skip hoist for material transport should be totally enclosed by impervious sheeting.	٨
	• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.	٨
	• 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.	^
	• 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.	^
	• All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.	٨
	• The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	^
	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	^

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)					
Construction Lands	cape and Visual	I			
S3.8.12	Minimized construction area and contractor's temporary works areas.	٨			
(AEIAR-130/2009)	• All existing trees should be carefully protected during construction.	٨			
and	• Trees unavoidably affected by the works should be transplanted where practical.	٨			
S7.9 (AEIAR-170/2013)	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.				
	• Control of night-time lighting.	٨			
	• Erection of decorative screen hoarding.	٨			
	Reduction of construction period to practical minimum.	٨			
	• Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas.	٨			
	 Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open. 	N/A			

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

APPENDIX F
SUMMARIES OF ENVIRONMENTAL
COMPLAINT, WARNING, SUMMON
AND NOTIFICATION OF SUCCESSFUL
PROSECUTION

Contract No. KL/2014/01

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

 $\label{eq:complaint} \textbf{Appendix} \ \textbf{F} - \textbf{Summary} \ \textbf{of} \ \textbf{environmental} \ \textbf{complaint}, \ \textbf{warning}, \ \textbf{summon} \ \textbf{and} \ \textbf{notification} \ \textbf{of} \ \textbf{successful} \ \textbf{prosecution}$

Reporting Month: June 2018

Contract No. KL/2014/01

Log Ref.	Location	Received Date	Details of Complaint/warning/summon and prosecution	Investigation/Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A	N/A

Remarks: No environmental complaint/warning/summon and prosecution were received in the reporting period.

APPENDIX G WASTE GENERATED QUANTITY

Name of Department: CEDD Contract No. KL/2014/01

Waste Flow Table for Year 2018

		Actual	Quantities of Inert C&D M	laterials Generated Mor	nthly			Actual Quantities	of C&D Wastes Gen	erated Monthly	
Month	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	5,821.15	0	0	0	5821.15	0	0	0.02	0	0	121.57
Feb	2,270.11	0	0	0	2270.11	0	0	0	0	0	85.98
Mar	2,914.70	0	0	0	2914.70	0	0	0.25	0	0	81.4
Apr	2,248.44	0	0	0	2248.44	0	0	0	0	0	75.27
May	2,022.25	0	0	0	2022.25	0	0	0.3	0	0	50.92
June	5748.34	0	0	0	5748.34	0	0	0	0	0	111.04
Sub-total	21,024.99	0.00	0.00	0.00	21,024.99	0.00	0.00	0.570	0.000	0.00	526.18
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	21,024.99	0.00	0.00	0.00	21,024.99	0.00	0.00	0.570	0.000	0.00	526.18