

Permanent Aviation Fuel Facility (EP-262/2007/B)

Third Landscape & Visual Bi-Monthly Audit Report – Sep 2010

1 November 2010

Environmental Resources Management

21/F Lincoln House
Taikoo Place, 979 King's Road
Island East, Hong Kong
Telephone 2271 3000
Facsimile 2723 5660

www.erm.com



Permanent Aviation Fuel Facility for Hong Kong International Airport

Environmental Certification Sheet EP-262/2007/B


Reference Document/Plan

Document/ Plan to be Certified / Verified:	Third Bi-Monthly LVA Report – Sep 2010
Date of Report:	1 November 2010
Date prepared by ET:	25 October 2010
Date received by IEC:	1 November 2010


Reference EP Condition

EM&A Manual Requirement:	Section 10.5
Content:	<i>Landscape and Visual – Construction and Post-construction Phase Audit</i>
<p>10.5 A specialist Landscape Sub-Contractor should be employed by the Contractor for the implementation of landscape construction works and subsequent maintenance operations during the 24 month establishment period. It is proposed that as the majority of the planting works in the area not to be development initially, the planting should be conducted within the first half of the construction contract. Thus, the establishment works will be undertaken through the latter half of the construction contract. The intention is to provide at least 24 months establishment period for the majority of the planting works.</p> <p>All measures undertaken by both the Contractor and the specialist Landscape Sub-Contractor during the construction phase and first year of the operational phase shall be audited by a Registered Landscape Architect, as a member of the ET, on a regular basis to ensure compliance with the intended aims of the measures. Site inspections should be undertaken at least once every two weeks throughout the construction period and once every two months during the operational phase.</p> <p>Operational phase auditing will be restricted to the last 12 months of the establishment works of the landscaping proposals</p>	

ET Certification

I hereby certify that the above referenced document/ plan complies with the above referenced condition of EP-262/2007/B	
	
Craig A Reid, Environmental Team Leader:	Date: 1 November 2010

IEC Verification

I hereby verify that the above referenced document/ plan complies with the above referenced condition of EP-262/2007/B	
	
Roger Leung, Independent Environmental Checker:	Date: 8 Nov 2010


Notes: EP-262/2007/B has replaced the former EP-262/2007/A, EP-262/2007 and EP-139-2002/A for the PAFF project after the resubmission of revised EM&A Manual and revised EIA Report respectively.

Permanent Aviation Fuel Facility (EP-262/2007/B) Third Landscape & Visual Bi-Monthly Audit Report – Sep 2010

1 November 2010

Prepared by: Fiona Fok/Francesca Zino/ Karen Lui/ Craig A Reid

Document Code: 0018105_LVAR_Sep 10_v0.doc

For and on behalf of Environmental Resources Management	
Approved by:	Craig A Reid
Signed:	
Position:	Environmental Team Leader
Date:	1 November 2010

This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

CONTENTS

1	INTRODUCTION	1
2	BI-MONTHLY LANDSCAPE AND VISUAL AUDIT RESULTS	3

Annex A - Landscape and Visual Audit – Site Inspection Checklist and Photographs

Leighton Contractors (Asia) Limited (LCAL) has appointed ERM-Hong Kong, Limited (ERM) as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for the Permanent Aviation Fuel Facility (the Project), including bi-monthly Landscape and Visual (LV) audits for one year of operation.

The Project construction works began at the end of 2005 and the landscape works began in mid-2006. In accordance with the *Condition 3.8* of Environmental Permit (EP 139/2002/A granted in February 2004), the Contractor employed Toyo Greenland Co. Ltd (Toyo) to create a detailed landscape plan and this was submitted to the Director of EPD on 8 February 2006. This original landscape plan was certified by IEC and ET, and approved by the Leisure and Cultural Services Department on 6 April 2006 and the District Lands Office, Tuen Mun Land's Department on 28 April 2006.

Although construction work was suspended between July 2006 and July 2007, the berm/landscaping bund was originally populated by vegetation grown during this project suspension period.

To address *Condition 3.4* of the updated Environmental Permit (EP 262/2007/B) based on an updated EIA report (*Register No. AEIAR-107/2007*), the Contractor submitted the Landscape Plan, which was certified by ET and IEC, to the EPD in December 2009. The EPD provided comments on 4 February 2010. Following revisions, the Contractor submitted an updated landscaping proposal for the PAFF project to the Lands Department (who are responsible for circulating it to other government departments including EPD) in April 2010. The Lands Department then required that the submission be in compliance with the latest technical circular, so a resubmission was made, which was verbally approved by the Lands Department at the end of July 2010.

Planting works were carried out by Toyo on the berm/landscaping bund with over 1,100 trees planted by the end of the reporting period⁽¹⁾. A tree survey was also conducted in April 2010 and revealed a 100% tree survival rate of the newly planted trees. Landscaping works were completed in July 2010 and ECO are now undertaking the landscape maintenance at PAFF.

Operation of PAFF Phase 1a started on 30 March 2010 and in accordance with the *EM&A Manual*, Landscape and Visual (LV) audits of the site will be undertaken once every two months for one year following this date. According to the *EM&A Manual*, the LV audit should include checking of the implementation and maintenance of LV mitigation measures to ensure that

(1) CLG 11th Meeting Minutes and Presentations. Available at http://www.hongkongairport.com/eng/afacilities/files/presentation1_260510.pdf [Accessed 5 July 2010]

they are undertaken in accordance with the recommendations of the approved *EIA Report*.

This is the **Third Landscape and Visual Audit Report** which summarizes the findings for the inspection carried out on 29 September 2010. This is the first stand alone LV audit report, since the LV audit reports have previously been included in the Monthly EM&A Reports which were no longer required after August 2010, upon completion of construction phase environmental monitoring and audit.

A Landscape and Visual audit was conducted on 29 September 2010, covering the Operational Phase 1a and Construction Phase 1b work sites.

All landscape and visual mitigation measures have been implemented with the exception of:

- Construction material stored near retained tree (T1) (refer to *Annex A*). The Contractor was recommended to remove any construction material stored near retained trees to keep root zones clear and prevent tree damage.
- Some Compensatory Trees were observed to be in poor health or dead. The Contractor was recommended to review health of all compensatory trees and replace any trees if confirmed dead.

Further details of the findings and observations of the LV audit are presented in *Annex A*.

Annex A

Site Inspection Checklist and Photographs

Environmental Monitoring and Audit Programme for the Permanent Aviation Fuel Facility (PAFF)

3rd Bi-Monthly Landscape and Visual Audit - Operational Phase 1a / Construction Phase 1b

Site Inspection Date : 29 September 2010

Inspected By : Fiona Fok

Certified by: Christina Ip (Registered Landscape Architect)



Area of Works	Items to be Monitored	Phase 1a (Operational)		Phase 1b (Construction)	
		Observation	Recommendation	Observation	Recommendation
Advance planting	Monitoring of implementation and maintenance of planting, and against possible incursion, physical damage, fire, pollution, surface erosion, etc.	Planting has been maintained and no possible incursion, physical damage, fire, pollution or surface erosion was observed.	Not required.	New tree planting has been maintained. Stakes are present to provide adequate support. No incursion, physical damage, fire, pollution or surface erosion was observed.	Not required.

Area of Works	Items to be Monitored	Phase 1a (Operational)		Phase 1b (Construction)	
		Observation	Recommendation	Observation	Recommendation
Protection of all trees to be retained	Identification and demarcation of trees / vegetation to be retained, erection of physical protection (e.g. fencing), monitoring against possible incursion, physical damage, fire, pollution, surface erosion, etc.	Not applicable as there are no retained trees present in Phase 1a.	Not applicable.	Retained trees have been fenced off and protected, the stockpile of construction material and machinery observed in last inspection near Retained tree group T66-72 have been cleared (Photo 1). Some construction materials were still observed near Retained Tree T1 (Photo 2).	Construction materials observed near Retained Tree T1 (Photo 2) are recommended to be removed as soon as possible.
Clearance of existing vegetation	Identification and demarcation of trees / vegetation to be cleared, checking of extent of works to minimize damage, monitoring of adjacent areas against possible incursion, physical damage, fire, pollution, surface erosion, etc.	Not applicable for operational phase.	Not applicable.	No incursion, physical damage, fire, pollution or surface erosion was observed.	Not required.

Area of Works	Items to be Monitored	Phase 1a (Operational)		Phase 1b (Construction)	
		Observation	Recommendation	Observation	Recommendation
Transplanting of trees	Identification and demarcation of trees / vegetation to be transplanted, monitoring of extent of pruning / lifting works to minimize damage, timing of operations, implementation of all stages of preparatory and translocation works, and maintenance of transplanted vegetation, etc.	Trees to be checked once tree transplantation and compensatory tree planting record is available from Leighton.	Not required.	Trees to be checked once tree transplantation and compensatory tree planting record is available from Leighton.	Not required.
Plant supply	Monitoring of operations relating to the supply of specialist plant material (including the collecting, germination and growth of plants from seed) to ensure that plants will be available in time to be used within the construction works.	All plants have been planted.	Not applicable.	All plants have been planted.	Not required.
Soiling, planting, etc.	Monitoring of implementation and maintenance of soiling and planting works and against possible incursion, physical damage, fire, pollution, surface erosion, etc.	Bare soil surfaces have been hydroseeded with grass. No incursion, physical damage, fire, pollution or surface erosion was observed.	Not required.	Erosion control mat is present for soiling maintenance. No incursion, physical damage, fire, pollution or surface erosion was observed.	Not required.

Area of Works	Items to be Monitored	Phase 1a (Operational)		Phase 1b (Construction)	
		Observation	Recommendation	Observation	Recommendation
Decorative treatment of site hoarding	Implementation and maintenance, to ensure compliance with agreed designs.	Not applicable for operational phase.	Not applicable.	Site hoarding with recessive visual appearance in grey colour has been erected along site peripheral where no existing walls are present to block the view to the construction site.	Not required.
Architectural treatment of retaining walls, elevated road structures and other engineering works.	Implementation and maintenance of mitigation measures, to ensure compliance with agreed designs.	Light colours and tones of non-reflective neutral grey colours with low chromatic intensity have been used in architectural treatment of engineering works as proposed in Landscape and Visual mitigation measures.	Not required.	Light colours and tones of non-reflective neutral grey colours with low chromatic intensity have been used in architectural treatment of engineering works as proposed in Landscape and Visual mitigation measures.	Not required.
Establishment Works	Monitoring of implementation of maintenance operations during Establishment Period	Some Compensatory Trees in the Operations Building area of Phase 1a were observed to be in poor health (<i>Photos 3-4</i>).	Contractor is recommended to review health of all compensatory trees and replace any trees if confirmed dead.	Plantings have been maintained to ensure healthy establishment.	Not required.



Photos 1– Stockpile of construction material and machinery observed in last inspection near Retained Trees T66-72 have been cleared.



Photos 2 – Stockpile of construction material observed near Retained Tree T1



Photos 3 & 4 – Examples of Compensatory Trees in the Operations Buildings area of Phase 1a, observed to be in poor health.

ERM has 100 offices
across the following
countries worldwide

Argentina	Malaysia
Australia	Mexico
Azerbaijan	New Zealand
Belgium	Panama
Brazil	Peru
Canada	Poland
Chile	Portugal
China	Puerto Rico
Colombia	Romania
Ecuador	Russia
France	Singapore
Germany	South Africa
Hong Kong	Spain
Hungary	Taiwan
India	Thailand
Indonesia	UAE
Ireland	UK
Italy	US
Japan	Vietnam
Kazakhstan	Venezuela
Korea	

ERM's Hong Kong Office

**21/F Lincoln House
Taikoo Place, 979 King's Road
Island East, Hong Kong
T: 2271 3000
F: 2723 5660**

www.erm.com