

**Contract No. : EP/SP/52/06**  
**Development of EcoPark in Tuen Mun Area 38**

**ENVIRONMENTAL MONITORING AND AUDIT**

**MONTHLY EM&A REPORT for**

**December 2009**

**Environmental Pioneers & Solutions Limited**

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## **APPROVAL SHEET**

DOCUMENT DATE: 31 December 2009

Prepared and Certified by: ET Leader (Environmental Pioneers & Solutions Limited)

Signature: \_\_\_\_\_  
Miss Patricia Chung

Date: \_\_\_\_\_

Verified by: \_\_\_\_\_  
IEC\*

Date: \_\_\_\_\_

\* IEC – Independent Environmental Checker

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**EXECUTIVE SUMMARY**

This is the forty-second monthly Environmental Monitoring and Audit (EM&A) Report for the Environmental Protection Department Contract No. EP/SP/52/06 entitled “Development of EcoPark in Tuen Mun Area 38”. (Environmental Permit No. EP-226/2005/A).

This report contains the results and findings of site inspection activities and EM&A works carried out by the Environmental Team (ET) of the Works Contractor as required in the contract during December 2009.

The site activities in the reporting period mainly consisted of excavation and site formation works and construction of drainage in Phase II construction site.

Several environmental issues, such as housekeeping issues, a power generator and several chemical drums were missing drip trays, dust and soil were spread over Roads A and D and the damaged wheel washing machine installed at the construction site entrance, have been identified by ET during weekly site inspections in the reporting month. Contractor has implemented some mitigation measures to address those problems as advised by ET. Some of the measures taken by the contractor were considered as effective to minimize negative impact to the environment. On-going investigation will be carried out to observe performance and effectiveness of those measures. Outstanding environmental items will be inspected in the following month.

Weekly LFG monitoring on point S3 is being carried out in the reporting month. Monitoring points Lot 7 pt2 is closed due to excavation pit being filled, since 4 December 2009. The measurement results from ET shown in Table 3.5 were within Action and Limit Levels in accordance with EM&A manual.

There were no notifications of summons or successful prosecution during December 2009.

Planned activities for January 2010 with regard to development of EcoPark consist of:

- 1) Site formation works,
- 2) Excavation works,
- 3) Road formation works and
- 4) Construction of drainage, sewerage & water mains

## **1. BASIC PROJECT INFORMATION**

### **1.1 Introduction**

This is the forty-second monthly Environmental Monitoring and Audit (EM&A) Report for the Environmental Protection Department Contract No. EP/SP/52/06 entitled “Development of EcoPark in Tuen Mun Area 38”. The site layout plan is shown in Appendix 1. The report was prepared by the Environmental Team, Environmental Pioneers & Solutions Limited, of the Works Contractor, Kaden Construction Limited. The report is to be submitted to the Works Contractor, the Engineer and the Environmental Protection Department for the project.

This report presents the results of the environmental monitoring of the project activities conducted during the month of December 2009. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the EM&A Manual and the Contractor’s Environmental Management Plan (EMP).

The construction works of Phase I have already commenced in July 2006 and have been completed in November 2008.

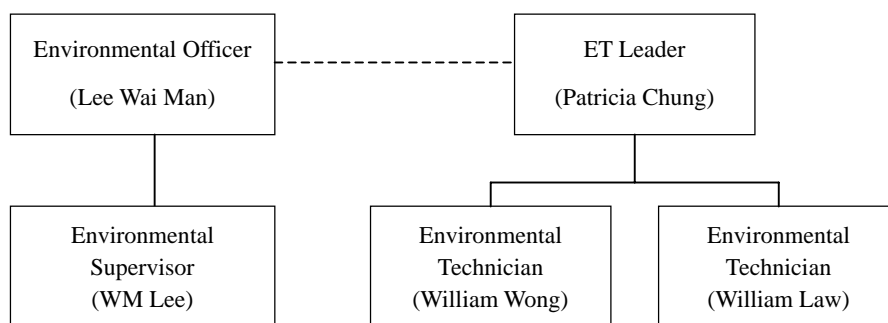
The construction works of Phase II commenced in December 2008 and is anticipated to be completed in February 2010.

The contact person and telephone number of key personnel for the captioned project are shown in Appendix 2.

### **1.2 Project Organization and Management**

The Works Contractor has commissioned Environmental Pioneers & Solutions Limited as the Environmental Team, which comprises the environmental team leader and the environmental technicians to undertake the environmental monitoring and audit work for this project. The project Organization Chart of Environmental Team is shown in Figure 1.1.

Figure 1.1 Organization Chart of Environmental Team



## 2. SUMMARY OF WORK ACTIVITIES AND CONSTRUCTION STATUS

### 2.1 Works Undertaken during the Month

A summary of the site installation works in this month, with the information of locations, activities, equipment/materials and dates of occurrence, is provided by the Contractor, as shown in Table 2.1.

Table 2.1 Work Activities for December 2009		
Item	Work Activities & Location	Date of Occurrence
1	Site formation works	01 December 2009 – 31 December 2009
2	Excavation works	01 December 2009 – 31 December 2009
3	Road Formation works	01 December 2009 – 31 December 2009
4	Construction of drainage	01 December 2009 – 31 December 2009

Machineries		
	Equipment/ Plant	Quantity
1	Mobile Crane	0
2	Excavator	6
3	Generator	2
4	Air Compressor	1
5	Roller	0
6	Loader	1
7	Grab Lorry	0
8	Crane Lorry	1
9	Water Truck	1
10	Dump Truck	1

Remarks:

- As informed by the Contractor, most equipment is mobile at site subject to work progress.
- Refer to Appendix 1 – Site layout plan for location of construction activities.



## 2.2 Future Key Issues

The Contractor has provided an updated construction program in Table 2.2 to show the planned activities for the coming month (January 2010). The anticipated environmental issues are summarized as follow:

Table 2.2 Construction Program and Anticipated Environmental Issues		
Item	Works	Anticipated Environmental Issues
1	Site formation works, excavation works & road works	<ul style="list-style-type: none"> <li>- Generation of C&amp;D waste; excavated material should be reused as much as practicable.</li> <li>- Dust may be generated; the wheel washing machine should be in operation.</li> <li>- Haul road should be sprayed regularly, by truck or sprinkler.</li> <li>- Stagnant water should be removed.</li> <li>- Mosquito mitigation measures should be implemented.</li> <li>- Landfill gas monitoring should be carried out.</li> </ul>
2	Construction of drainage, sewerage & water mains	<ul style="list-style-type: none"> <li>- Generation of C&amp;D waste; excavated material should be used as much as practicable</li> <li>- Dust may be generated; the wheel washing machine should be in operation</li> </ul>

The site inspection schedule for the next month (January 2010) is designated on 8<sup>th</sup>, 15<sup>th</sup>, 22<sup>nd</sup> and 29<sup>th</sup> of January 2010.

### **3. STATUS OF ENVIRONMENTAL PROTECTION AND SITE INSPECTIONS**

#### **3.1 Environmental Site Inspections**

Environmental site inspections are required to inspect the construction activities of the Development of EcoPark in order to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented. Regular site inspections should be carried out by the ET once per week during construction phase.

Outstanding issues at the end of November 2009 includes:

- 1) The automatic wheel washing machine was found to be severely damaged on 18 September 2009. Contractor was reminded to manually wash the vehicles leaving the construction site before automatic wheel washing machine is repaired or replaced. The wheel washing machine shall be repaired by the end of February 2010, tentatively.
- 2) The doors for the chemical waste storage were bent and did not close and lock properly. Contractor was reminded to monitor and maintain the chemical waste storage facilities. Tentative closing date is 30 January 2010.
- 3) Sections of hoardings on Road A are loosened. Contractor was reminded to repair and mount the loosened sections properly to prevent dirt and dust being brought outside of the construction site by wind. This item was closed on 4 December 2009.
- 4) Road A near construction site exit is covered with dirt and dust. Contractor was reminded to manually wash the vehicles leaving the construction site before the automatic wheel washing machine is repaired or replaced. Tentative closing date is 31 January 2010.
- 5) Food and drink containers and remains are found near resting areas. Contractor was reminded to provide proper rubbish disposal bins for workers. This item was closed on 4 December 2009.

Site inspections for Phase II construction site were conducted on 4<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup>, 24<sup>th</sup> and 31<sup>st</sup> of December 2009.

A detailed checklist of each site inspection together with comments, relevant photos and maps have been filed and kept.

The findings and results of site inspections are provided in Table 3.1:

Table 3.1 Summary of Site Inspections for Phase II construction site during December 2009				
Date	Observations	Advice from ET	Action taken	Closing Date
11 September 09 to 31 December 09	The automatic wheel washing machine malfunctioned on 11 September and found to be severely damaged on 18 September 2009.	Contractor was reminded to repair the automatic wheel washing machine and instruct workers to properly wash wheels of construction vehicles by hand.	Contractor reminded instructed drivers and workers to manually wash wheels of vehicles until further notice.	To be followed in the next reporting month. (Tentative closing date: 28 February 2009)
18 September 09 to 31 December 09	The doors for the chemical waste storage were bent and did not close and lock properly.	Contractor was reminded to monitor and maintain the chemical waste storage facilities and properly to ensure the storage facilities are secured.	Contractor immediately appointed a worker to fix the doors. However the doors are still bent and did not close properly.	To be followed in the next reporting month. (Tentative closing date: 31 January 2010)
02 October 09 to 27 November 09	Sections of hoardings on Road A are loosened.	Contractor was reminded to repair and mount the loosened sections properly to prevent dirt and dust being brought outside of the construction site by wind.	Hoardings were removed due to construction program..	4 December 09
09 October 09 to 31 December 09	Road A near construction site exit is covered with dirt and dust.	Contractor is reminded to manually wash the vehicles leaving the construction site before the automatic wheel washing machine is repaired or replaced.	Contractor reminded to instruct drivers and workers to manually wash wheels of vehicles until further notice.	To be followed in the next reporting month. (Tentative closing date: 31 January 2010)
11 December 09 18 December 09 24 December 09 31 December 09	Roads A and D are covered with dirt and dust.	Contractor is reminded to manually wash the vehicles leaving the construction site before the automatic wheel washing machine is repaired or replaced.	Contractor reminded to instruct drivers and workers to manually wash wheels of vehicles until further notice.	To be followed in the next reporting month. (Tentative closing date: 31 January 2010)
24 December 09 31 December 09	A few oil containers are found near the chemical drum storage cabinet without a drip tray.	Contractor was reminded to place chemical containers on a drip tray or inside the chemical drum storage cabinet immediately after use.	Contractor used drip trays to place used chemical drums.	To be followed in the next reporting month. (Tentative closing date: 15 January 2010)
02 October 09 to 27 November 09	Packs of cement are found hardened and without covers.	Contractor was reminded to properly dispose of the hardened cement and to provide adequate storage.	Contractor took action to dispose the packs of cement with other C&D waste.	4 December 09
27 November 09	Food and drink containers and remains are found near resting areas.	Contractor was reminded to provide proper rubbish disposal bins for workers.	Contractor took action to order workers to collect the general waste.	4 December 09 (Photo will be presented in the January 2010 EM&A Report)

Table 3.1 Summary of Site Inspections for Phase II construction site during December 2009

Date	Observations	Advice from ET	Action taken	Closing Date
27 November 09	Diesel inside a jug without a drip tray and label was observed at a point near the machine repairing area.	Contractor was reminded to place the oil containers on drip trays or inside the chemical storage cabinet immediately after use.	Contractor took action to remove the questionable container and reminded workers to use proper containers for oil and petroleum products.	4 December 09 (Photo will be presented in the January 2010 EM&A Report)
4 December 09 11 December 09	Numerous dusty stockpiles without sufficient effective dust suppression measures were observed.	Contractor was reminded to control height of stockpiles and provide effective dust suppression measure as far as practicable.	Contractor took action to spray water onto the stockpiles to suppress any dust being brought into air. Stockpiles were used up due to construction program.	18 December 09 (Photo will be presented in the January 2010 EM&A Report)
11 December 09	A pile of waste wood and board was observed in the middle of Lot 9.	Contractor was reminded to improve the housekeeping practice on site and properly dispose of C&D waste.	Contractor took action to remove and disposed of the pile of wood and board.	24 December 09 (Photo will be presented in the January 2010 EM&A Report)
11 December 09	Muddy site runoff was observed at the waterfront.	Contractor was reminded to pay attention to possible muddy runoff point in Phase II construction site and consider the need of installing a silt curtain.	Contractor took action to halt the muddy water discharge from site.	18 December 09 (Please refer to Fig. 1)
18 December 09 24 December 09 31 December 09	A power generator was found without a drip tray.	Contractor was reminded to provide proper oil containing facilities for stationary machineries and monitor for any oil leakage.	--	To be followed in the next reporting month. (Tentative closing date: 15 January 2010)
18 December 09	Muddy water from manual wheel washing was observed to flow into storm drains on Road A.	Contractor was reminded to clean wheels of construction vehicles inside the construction site to prevent muddy water from flowing outside the construction site.	Contractor took immediate action to instruct workers to stop immediately and move the vehicle back into construction site before continue to wash.	24 December 09 (Photo will be presented in the January 2010 EM&A Report)
18 December 09	Food containers and general waste was scattered in Lot 8.	Contractor was reminded to provide proper rubbish disposal bins for workers and remind workers to maintain proper housekeeping.	Contractor took action to order workers to collect the general waste.	24 December 09 (Photo will be presented in the January 2010 EM&A Report)

Table 3.1 Summary of Site Inspections for Phase II construction site during December 2009				
Date	Observations	Advice from ET	Action taken	Closing Date
18 December 09 24 December 09 31 December 09	Machine oil was spread all over a concrete slab of the machine repairing area.	Contractor was reminded to have oil and grease collecting facilities in place before proceeding with any major machine repairing work. Contractor was also reminded to properly collect and dispose of the contaminated concrete.	--	To be followed in the next reporting month. (Tentative closing date: Immediate.)
31 December 09	The connecting pipe on a water pump is cracked and water is spilled on the surrounding walls, resulting mud collected in the excavation pit.	Contractor was reminded to treat accumulated water properly to meet requirements specified in the issued discharge license, if appropriate.	--	To be followed in the next reporting month. (Tentative closing date: 15 January 2010)



Fig. 1 No muddy water discharge was observed by waterfront.

### 3.2 Air Dust

Excavation work is being carried out in Phase II construction site. Dust problem may be arisen when stockpiles of excavated materials are not enclosed, covered or dampened during dry or windy conditions. Dust suppression measures such as water spraying have been observed in the reporting month.

As observed during inspection in the reporting month, many of the stockpile materials have been used for backfilling. Contractor was reminded to continue routine dust suppression measures such as regular water spraying on site.

Furthermore, sections of hoardings on Road A are loosened. Contractor has removed the hoardings on Road A due to construction programme on 4 December 2009.

### 3.3 Noise

The major noise source was vehicle movement and machinery in the EcoPark. Since the nearby NSRs were remote, the noise impact was minimal. There was no specific observation noted regarding noise issue. The Contractor has obtained the Construction Noise Permit on 19 August 2009 and it will be expire on 18 Jan 2010.

### 3.4 Surface Water Quality

Since there was no water discharge at manhole, the Contractor removed the silt curtain installed at discharge point on 4 April 2007, as agreed by the Engineer's Representative. Muddy water was observed at discharge point for Phase I construction site on 14 August 2009. The contractor was reminded to consider using a slit curtain if the discharge continues. As informed by Engineer's Representative, there was no direct water discharge at manhole in Phase II construction site. No muddy water discharge is expected.

Chemical toilets (1 nos.) have been provided in Phase II construction site by a licensed

contractor, of which sewage generated is collected every three to five days without causing contamination on surface water. The Effluent Discharge License was issued to the Contractor on 20 November 2006.

The temporary storage tank was used to store the effluent of aerobic wastewater treatment system and the stored effluent was pumped away regularly. As checked by the ET, there was no effluent discharge into the storm water drain. To avoid any sewage overflow, frequent checking is required after the commencement of Phase II construction works.

The automatic wheel washing machine was found to be severely damaged on 18 September 2009. Contractor was reminded to manually wash the vehicles leaving the construction site before automatic wheel washing machine is repaired or replaced. ET will continue to monitor in the coming month on this issue. Contractor shall repair the damaged automatic wheel washing machine by February 2010.

Road A near waterfront was covered with dirt and dust, due to construction vehicles using the exit without any wheel washing facilities. Contractor was reminded to properly fence off the site entrances and exits without any wheel washing facilities.

A power generator and several chemical drums were found without drip trays. Contractor was reminded to provide drip trays for stationary machineries and chemical containers or store the chemical containers in the proper storage area immediately after use.

### 3.5 Visual and Landscape Impact

Hoarding was erected at the site egress and aligned along the site boundary along Lung Mun Road. Hoardings were specially designed to be movable for future re-use in other locations.



Hoardings beside Road A have been removed temporarily due to construction program. Contractor was reminded to re-install hoardings to prevent dirt and dust being brought outside of construction site by wind.

### 3.6 Waste / Chemical Waste

The Contractor implemented visual inspection and distributed flyers/ notices to ensure all dump trucks have mechanical covers closed when leaving EcoPark site.

Separate waste collection bins were made available for collecting aluminum cans, waste paper and plastic bottles etc. The Contractor has provided the revised site layout plan for refuse collection points as shown in Appendix 3.

Waste dumpsters were used for the collection and storage of general waste. Temporary storage areas for waste metals and waste tires were established in Phase I construction site. For Phase II construction site, a designated refuse collection point has been established and location is shown in Appendix 3.

Excavated materials are reused as back-fill material to balance cut and fill and hence reduce the generation of materials. Surplus materials are returned to stock in centralized area with suitable protective measures. The Contractor was reminded to comply with the requirements and conditions for disposal at public fill facility and all oversized aggregates should be crushed to less than 250mm before delivering to the public fill.

Materials are recycled and re-used at site as much as practicable to minimize waste generation. Timbers are recycled to make temporary tools and access ladders etc. Excavated rocks, concrete and asphalts are stored for future re-use in land formation and structural construction etc.

Machine oil was spread all over a concrete slab of the machine repairing area. Contractor was reminded to have oil and grease collecting facilities in place before proceeding with any major machine repairing work. Contractor was also reminded to

properly collect and dispose of the contaminated concrete.

Registered waste collectors will be arranged to collect and transport the wastes whenever necessary.

Table 3.4 provides a summary table of waste disposal in December 2009. The Contractor has been reminded to keep good record at site in order to have a clear presentation of waste disposal.

Table 3.4 Summary of Waste Disposal in December 2009			
Type of Waste	Disposal Site	Quantity	Remarks
General Waste	WENT Landfill	3.5 tonnes	-
Inert C&D Material	Public Fill Facility	0 tonnes	-

### 3.7 Landfill Gas

Excavation pit is filled in Lot 7 Pt 2 on 4 December 2009. Hence, existing LFG measurement point, Lot 7 Pt 2 is closed.

Measurement results are summarized in Table 3.5. All results are within the Action / Limit Levels in accordance with the EM&A Manual, as shown in Table 3.6.

Table 3.5 Summary of LFG Measurement for December 2009						
Sampling Location	Date of Measurement	Sampling Time	Weather Condition	Methane (CH <sub>4</sub> ) %LEL	Carbon Dioxide (CO <sub>2</sub> ) %LEL	Oxygen (O <sub>2</sub> )
S3	4 December 09	11:22	Sunny	0.00%	0.00%	20.9
S3	11 December 09	11:24	Sunny	0.00%	0.00%	20.7
S3	18 December 09	11:36	Overcat	0.00%	0.00%	21.8
S3	24 December 09	11:06	Overcast	0.00%	0.00%	20.5
S3	31 December 09	11:20	Overcast	0.00%	0.00%	21.5
Remarks: Excavation pit is filled in Lot 7 Pt 2 on 4 December 2009. Hence, existing LFG measurement point, Lot 7 Pt 2 is closed.						

Table 3.6 Action Levels, Limit Levels and Event and Action Plan for LFG (From EM&amp;A Manual)

Parameter	Level	Action
Oxygen	Action Level < 19% O <sub>2</sub>	Ventilate trench/ void to restore O <sub>2</sub> to >19%
	Limit Level < 18% O <sub>2</sub>	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore O <sub>2</sub> to > 19%
Methane (CH <sub>4</sub> )	Action Level >10% LEL	Post “No Smoking” signs Prohibit hot works Increase ventilation to restore CH <sub>4</sub> to <10% LEL
	Limit Level >20% LEL	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CH <sub>4</sub> to <10% LEL
Carbon Dioxide (CO <sub>2</sub> )	Action Level >0.5% CO <sub>2</sub>	Ventilate to restore CO <sub>2</sub> to < 0.5%
	Limit Level >1.5% CO <sub>2</sub>	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CO <sub>2</sub> to < 0.5%

#### 4. SUMMARY OF ENVIRONMENTAL PERMIT AND LICENCES

ET has checked with the Contractor for the status of all environmental permits and licenses for this project as at December 2009, which is summarized in Table 4.1. ET will follow the application process of the outstanding permits / licenses and will provide suitable assistance whenever appropriate.

Table 4.1 Summary of Environmental Permits/Licences				
Description	License / Permit No.#	Date of Issue	Date of Expiry	Status/Remarks
Environmental Permit	EP-226/2005/A	9-Sept-2005	--	Issued
Registration of Waste Producer	5111-421-K2869-02	27-Jul-2006	--	Issued
Construction Noise Permit	GW-RW0352-09	19-Aug-2009	18-Jan-2010	Issued
Effluent Discharge Licence	EP760/421/011762/I	20-Nov-2006	1-Dec-2011	Issued

#### 5. CUMULATIVE LOG OF COMPLAINTS AND REMEDIAL ACTION

The cumulative log of complaints is referred in Appendix 5.

#### 6. CUMULATIVE LOG OF NOTIFICATION OF SUMMONS AND PROSECUTIONS

No notification of summons and no prosecutions occurred during December 2009.

#### 7. CONCLUSION

There is no summon nor prosecutions reported during December 2009.

Several environmental issues, such as the housekeeping issues, a power generator and several chemical drums were missing drip trays, dust and soil were spread over Roads A and D and the damaged wheel washing machine installed at the construction site entrance, have been identified by ET during weekly site inspections in the reporting month. Contractor has implemented some mitigation measures to address those problems as advised by ET. Some of the measures taken by the contractor were considered as effective to minimize negative impact to the environment. On-going

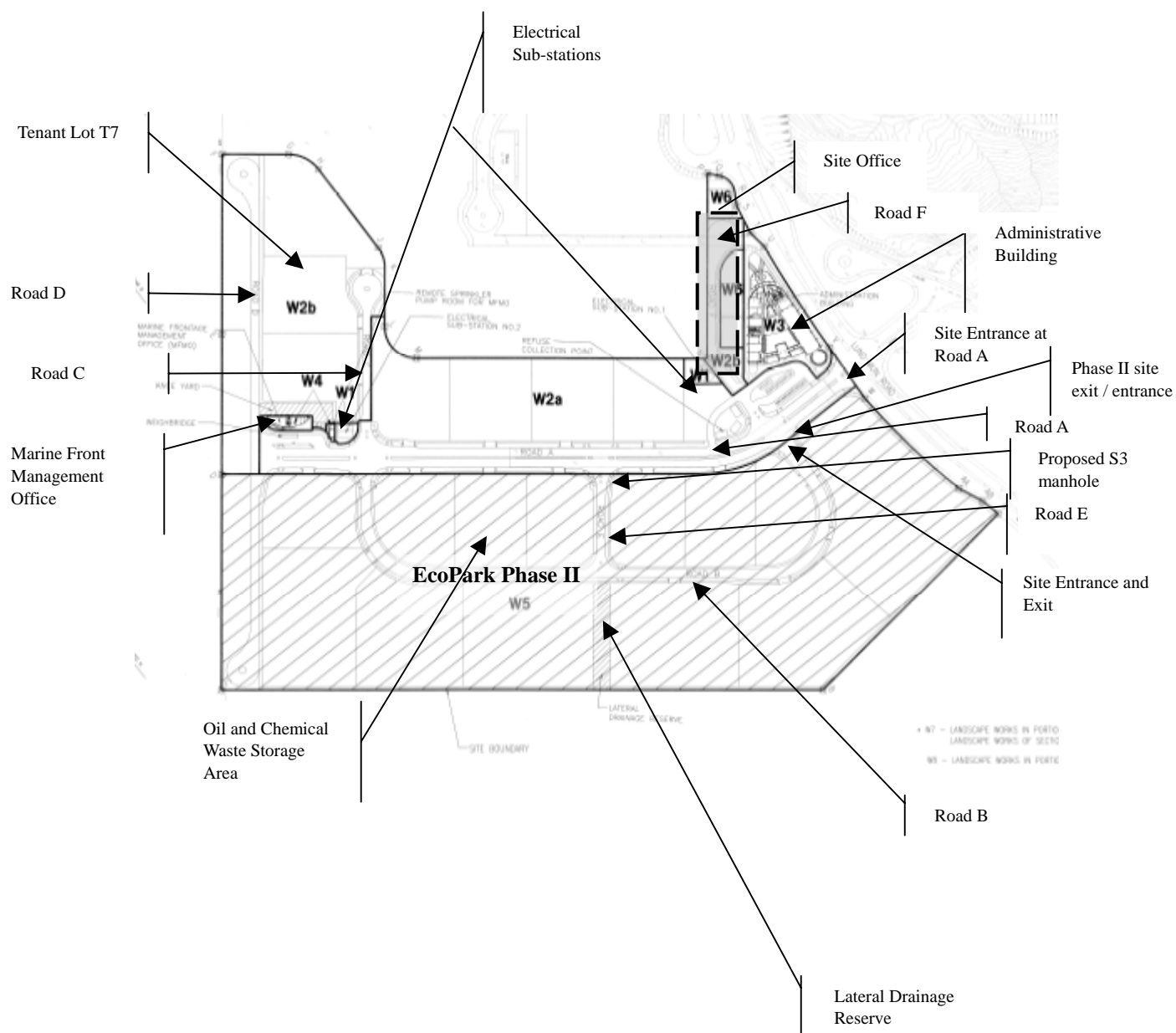
investigation will be carried out to observe performance and effectiveness of those measures. Outstanding environmental items will be inspected in the following month.

The Contractor has been using the waste management and record system including allocation of waste storage areas and the trip ticket system as proposed in the Environmental Management Plan.

Weekly LFG monitoring on point S3 is being carried out in the reporting month. Monitoring points Lot 7 pt2 is closed due to excavation pit being filled, since 4 December 2009. The measurement results from ET shown in Table 3.5 were within Action and Limit Levels in accordance with EM&A manual.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

## APPENDIX 1 - SITE LAYOUT PLAN



**APPENDIX 2 - THE CONTACT PERSONS, TELEPHONE NUMBERS OF KEY PERSONNEL FOR DEVELOPMENT OF ECOPARK IN TUEN MUN AREA 38**

<b>Company/Department</b>	<b>Name</b>	<b>Position</b>	<b>Telephone</b>
Scott Wilson Ltd.	Harold Insley	Independent Environmental Checker	2410 3858
Scott Wilson Ltd.	Mr. Andy Cheung	Resident Engineer	6111 9703
Scott Wilson Ltd.	Mr. T W Wong	Inspector	6111 9705
Kaden Construction Limited	Mr. K M Book	Project Manager	9193 8680
Kaden Construction Limited	Mr. Stephen Leung	Section Agent	9071 7657
Environmental Pioneers & Solutions Limited	Miss. Patricia Chung	Environmental Team Leader	2965 0888
Environmental Pioneers & Solutions Limited	Mr. William Wong	Environmental Technician	2965 0818
Environmental Pioneers & Solutions Limited	Mr. William Law	Environmental Technician	2965 0882

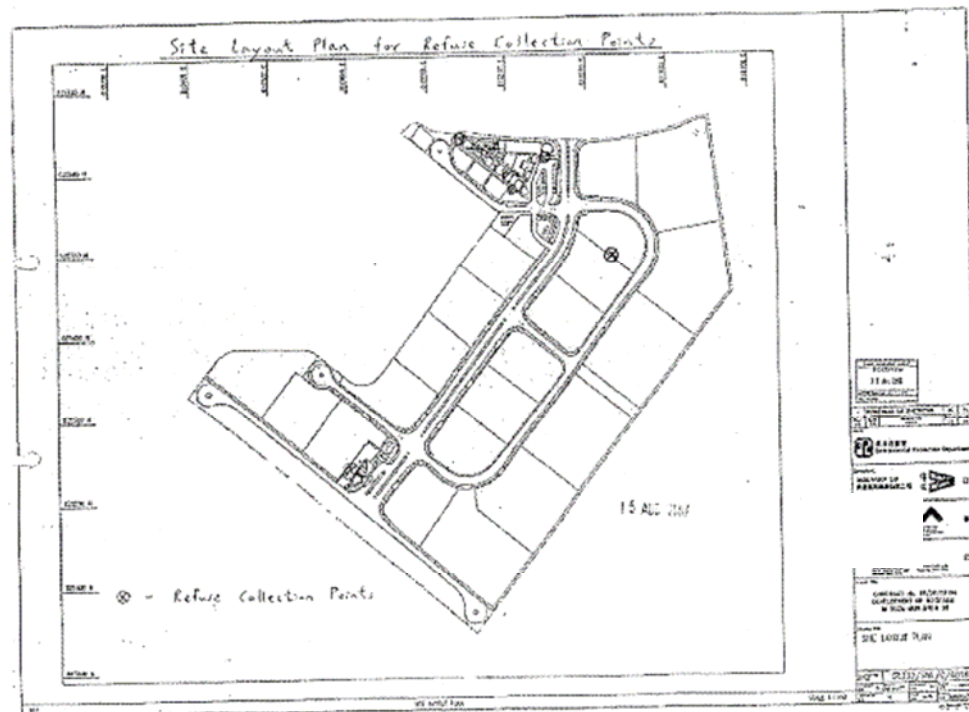


### APPENDIX 3 – REVISED SITE LAYOUT PLAN FOR REFUSE COLLECTION POINTS

Development of EcoPark in Tuen Mun Area 38

Contract No. EP/SP/52/06  
EM&A Report No. 30 (December 2008)

#### APPENDIX 3 – REVISED SITE LAYOUT PLAN FOR REFUSE COLLECTION POINTS



**APPENDIX 4 - ORIGINAL LANDFILL GAS FIELD MEASUREMENT  
RECORDING SHEETS**

Environmental Pioneers and Solutions Limited

Contract No.: EP/SP/52/06 - Development of EcoPark in Tuen Mun Area 38

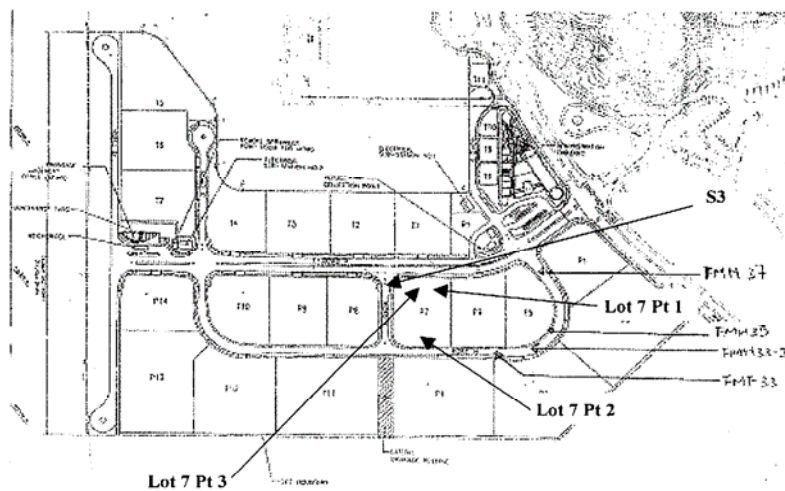
**Landfill Gas Monitoring – Field Measurement Recording Sheet**

Date of Monitoring: 4 Dec 2009  
 Weather condition: Sunny  
 Monitoring performed by: Chung Ai Suen  
 Monitoring instrument:

Instruments	Model: GEM 2000	Last calibration:	03 April 2009
	S/N: GM-08793106	Next calibration:	02 April 2010

Monitoring results:

Location	Time	Results				
		Methane (CH <sub>4</sub> ) %	Carbon Dioxide (CO <sub>2</sub> ) %	Oxygen (O <sub>2</sub> ) %	Bal. Gas %	Baro. Pressure %
S3	1122	00.0	00.0	20.9	79.0	30.07



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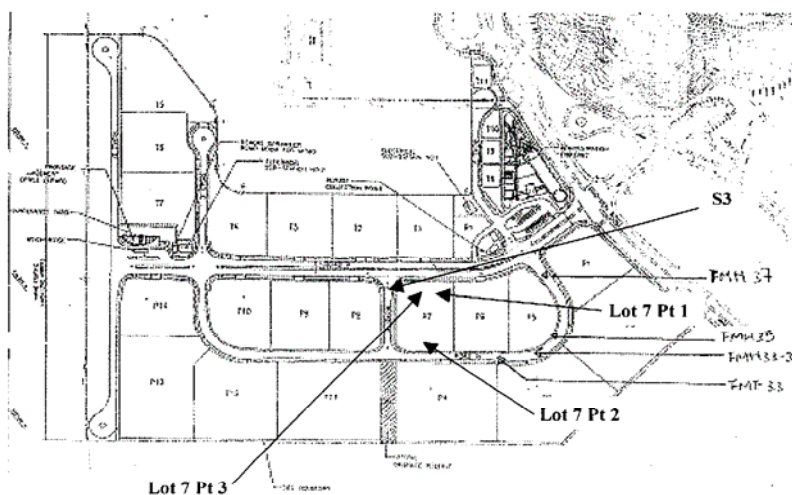
**Landfill Gas Monitoring – Field Measurement Recording Sheet**Date of Monitoring: 11/12/2009Weather condition: SunnyMonitoring performed by: WILLIAM LAM

Monitoring instrument:

Instruments	Model: GEM 2000	Last calibration:	03 April 2009
	S/N: GM-08793106	Next calibration:	02 April 2010

Monitoring results:

Location	Time	Results				
		Methane (CH <sub>4</sub> ) %	Carbon Dioxide (CO <sub>2</sub> ) %	Oxygen (O <sub>2</sub> ) %	Bal. Gas %	Baro. Pressure %
S3	11:24	00.0	00.0	20.7	79.3	30.01



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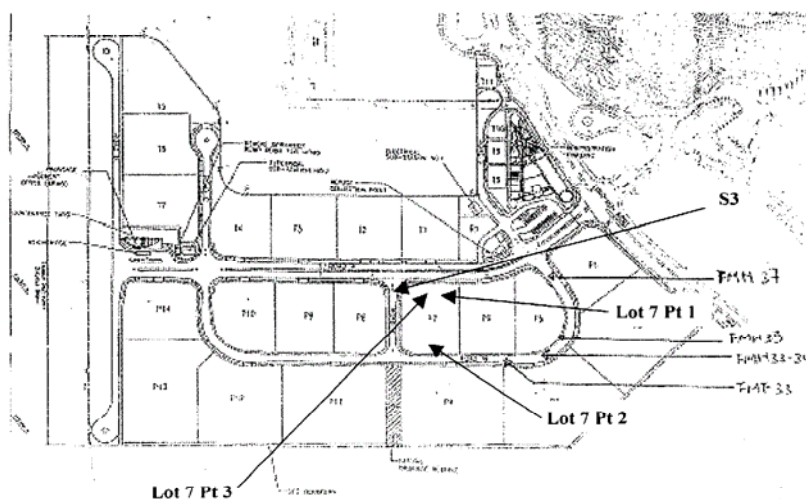
**Landfill Gas Monitoring – Field Measurement Recording Sheet**

Date of Monitoring: 18/12/2009  
 Weather condition: OVERCAST  
 Monitoring performed by: WILLIAM LAW  
 Monitoring instrument:

Instruments	Model: GEM 2000	Last calibration:	03 April 2009
	S/N: GM-08793106	Next calibration:	02 April 2010

Monitoring results:

Location	Time	Results				
		Methane (CH <sub>4</sub> ) %	Carbon Dioxide (CO <sub>2</sub> ) %	Oxygen (O <sub>2</sub> ) %	Bal. Gas %	Baro. Pressure %
S3	11:36	00.0	00.0	21.8	78.2	30.28



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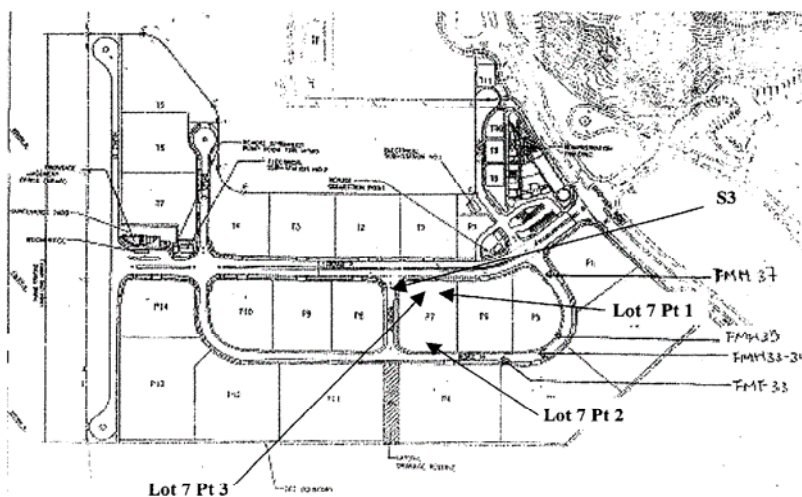
**Landfill Gas Monitoring – Field Measurement Recording Sheet**Date of Monitoring: 24/12/09Weather condition: CloudyMonitoring performed by: William Law

Monitoring instrument:

Instruments	Model: GEM 2000	Last calibration:	03 April 2009
	S/N: GM-08793106	Next calibration:	02 April 2010

Monitoring results:

Location	Time	Results				
		Methane (CH <sub>4</sub> ) %	Carbon Dioxide (CO <sub>2</sub> ) %	Oxygen (O <sub>2</sub> ) %	Bal. Gas %	Baro. Pressure %
S3	11:06	00.0	00.0	20.5	79.5	29.98



Environmental Pioneers and Solutions Limited

Contract No.: EP/SP/52/06 - Development of EcoPark in Tuen Mun Area 38

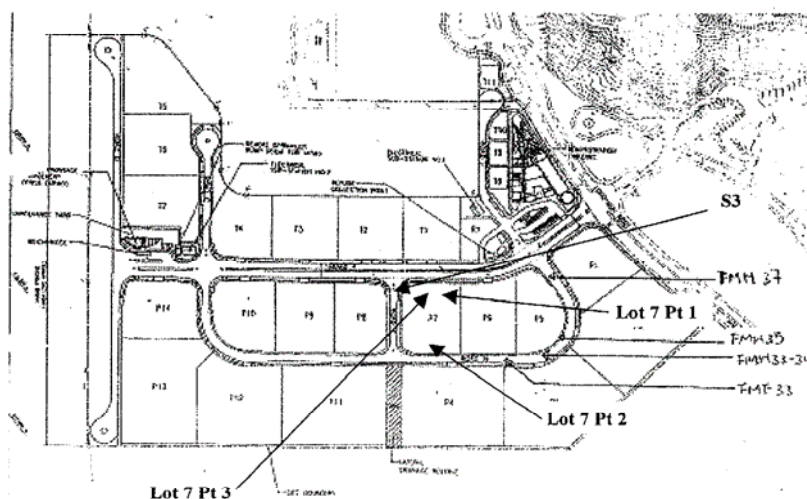
**Landfill Gas Monitoring – Field Measurement Recording Sheet**

Date of Monitoring: 31/12/2009  
 Weather condition: Overcast  
 Monitoring performed by: William Law  
 Monitoring instrument:

Instruments	Model: GEM 2000	Last calibration:	03 April 2009
	S/N: GM-08793106	Next calibration:	02 April 2010

Monitoring results:

Location	Time	Results				
		Methane (CH <sub>4</sub> ) %	Carbon Dioxide (CO <sub>2</sub> ) %	Oxygen (O <sub>2</sub> ) %	Bal. Gas %	Baro. Pressure %
S3	11:20	00.0	00.0	21.5	78.5	30.05



**APPENDIX 5 – CUMULATIVE LOG OF COMPLAINTS****CUMULATIVE LOG OF COMPLAINTS**

<b>Environmental Parameters</b>	<b>No. of Outstanding Complaints</b>	<b>No. of complaints received in December 2009</b>	<b>Cumulative no. of complaints received since the commencement of project</b>
Air	0	0	2
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	2

**DETAILS OF COMPLAINTS AND REMEDIAL ACTIONS**

<b>Log Ref.</b>	<b>Date of Complaint received</b>	<b>Location</b>	<b>Complainant /Date</b>	<b>Details of Complaint</b>	<b>Investigation /Mitigation Action</b>	<b>Investigated by/ Date</b>
-	-	-	-	-	-	-