

---

**Contract No. : DC/99/10**

**Upgrading of Siu Ho Wan  
Sewage Treatment Plant - Civil Works**

**Environmental Monitoring & Audit  
Monthly Monitoring Report, No.20**

**April 2003**

THIS REPORT IS PREPARED BY :    Envirotech Services Co.  
Shop 6, G/F, Casio Mansion,  
209 Shaukeiwan Road, Hong Kong.  
Tel : 2560 8450  
Fax : 2560 6553

---

## **EXECUTIVE SUMMARY**

This is the twentieth monthly EM&A Report for Contract No. DC/99/10- Upgrading of Siu Ho Wan Sewage Treatment Plant Civil Works, which records the results and findings of all EM&A work required in the EM&A Manual for the month of April 2003.

### **Environmental Monitoring and Inspection**

There was no routine environmental monitoring required during the construction period in accordance with the EM&A Manual. Joint site inspection was conducted regularly on weekly basis to ensure the environmental mitigation measures were performed timely and properly and the environmental requirement of the contract and environmental legislation in Hong Kong are complied. Ad hoc site inspections will be carried out if environmental problems are identified or upon receipt of complaints.

### **Status of Implementation of Mitigation Measures**

Drainage works along the building, cladding works of buildings, internal blockworks and finishes, watertightness tests of structures, laying of drain pipes and construction of manholes, laying cable trenches and road works were carried out in April 2003. The corresponding mitigation measures were implemented such as a wheel washing bay was provided at the site exit; water hoses, water truck and water sprinklers were provided for watering the dusty areas; a de-silting tank was provided to treat the muddy effluent before discharging; stockpiled materials were covered with tarpaulin sheets to prevent fugitive dust emission and perimeter channels were provided to intercept the surface runoff. The implementation status of the mitigation measures was overall satisfactory although minor deficiencies were observed. However, the deficiencies were not likely causing any immediate environmental problem and would be rectified by the Contractor in the short term.

### **Status of Licences and Permits**

Construction noise permits, water discharge license and registration of chemical waste producer were valid in the reporting period.

### **Environmental Complaints and Legislation**

No complaint was received during the reporting period and thus no action to be taken. There was also no notification of summonses and successful prosecutions.

### **Future Key Issues**

Drainage works along the building, cladding works of buildings, internal blockworks and finishes, watertightness tests of structures, laying of drain pipes and construction of manholes, laying cable trenches and road works will proceed next month. In view of the forthcoming wet season, the Contractor should maintain road gullies, catchpits and U-channel in good condition to avoid flooding during rainstorm. Apart from that, the Contractor should take precautionary measures to prevent transmission of Dengger Fever such as avoiding accumulation of rainwater and removing stagnant water as soon as possible to avoid mosquitoes breeding.

The Contractor should continue implement appropriate environmental mitigation in accordance with the contract requirement and the waste management plan.

## CONTENTS

	<b>Page</b>
1 ENVIRONMENTAL STATUS	1
1.1 Site Environmental Monitoring and Audit	1
1.2 Summary of Non-compliances	1
1.3 Summary of complaint	2
1.4 Breach of Environmental Regulation	2
1.5 Solid and Liquid Waste Management Status	2
1.6 Status of License and Permit	3
2 ENVIRONMENTAL ISSUES AND ACTIONS	4
2.1 Review of Follow-up Actions for Non-compliances	4
2.2 Status of Implementation of Mitigation Measures	4
3 FUTURE KEY ISSUES	5
4 CONCLUSIONS	6

### List of Tables

Table 1.1	Status of Management of Solid and Liquid Waste	2
Table 1.2	Environmental Licenses and Permits	3
Table 3.1	Construction Activities and Their Corresponding Environmental Mitigation Measures in the Coming Month	5

### Appendices

Appendix A	Summary of Complaints
Appendix B	Details of Outstanding Issues / Deficiencies
Appendix C	Site Audit Schedule for May 2003

## **1 ENVIRONMENTAL STATUS**

### **1.1 Site Environmental Monitoring and Audit**

The EM&A Manual requires no routine environmental monitoring for air quality, noise level and water quality during construction phase.

The EM&A Manual stated that ET leader should carry out site audit at least once per week to ensure that all mitigation measures were implemented timely and properly, and the contract requirement and environmental laws are fully complied. Ad hoc site inspection will be carried out if any non-compliances are identified or upon receipt of an environmental complaint. Apart from the regular site audit, the ET Leader will review the progress of the works with respect to pollution control and anticipated environmental issues and check the status of solid and liquid waste management with reference to the waste management plan.

The ET Leader also reviews the proposals for mitigation measures and the relevant method statement submitted by the Contractor in respect of environmental protection.

### **1.2 Summary of Non-compliances**

Four regular site audits were conducted in the reporting month. It was observed that some mitigation measures had not been fully implemented or the extent was insufficient. They included:

- It was observed that a lot of rainwater accumulated at the site areas after recent rainstorms. The Contractor was advised to remove the stagnant water as soon as possible to prevent breeding of mosquitoes if infiltration through soil alone was not practicable.
- The Contractor had replaced part of the damaged sandbag with the intact ones. The Contractor was advised to replace the remaining damaged sandbags as soon as possible to intercept the silt and soils in the contaminated surface runoff to prevent them from entering the storm drain.
- It was noted that wastewater pumped out from the work area was not properly treated and spilled over the access road of existing DSD treatment plant. The Contractor should properly discharge the wastewater into nearby storm drain after sedimentation.
- It was noted that stagnant water was accumulated at constructed manholes of the site area. The Contractor was advised to remove the accumulated water after sedimentation to prevent breeding of mosquitoes.
- It was reiterated that a lot of rubbish accumulated at the perimeter channel located at the back of the Contractor's site office. The Contractor should carry out clearance work of the channel without further delay to avoid flooding since the wet season had approached.

### 1.3 Summary of complaint

No complaint was received during the monitoring period and thus no action to be taken. A detailed summary of complaint was shown in Appendix A.

### 1.4 Breach of Environmental Regulation

In this reporting period, there was no conviction for breach of environmental legislation and regulations and thus no action was taken.

### 1.5 Solid and Liquid Waste Management Status

The status of management of solid and liquid waste in accordance with the waste management plan is presented in Table 1.1 below:

**Table 1.1 Status of Management of Solid and Liquid Waste**

<b>Management of Solid and Liquid Waste</b>	<b>Status</b>
<b>Disposal of Liquid Waste</b>	<ul style="list-style-type: none"><li>- Sewage generated by the site office was discharged into adjacent Siu Ho Wan Sewage Treatment Plant.</li><li>- Surface runoff and groundwater were treated by sand bags or de-silting tank before discharging into nearby storm drains. Some surface runoff was infiltrated through the sediment.</li><li>- Wastewater generated from a wheel washing bay via a silt trap before discharging into nearby storm drains.</li><li>- Portable toilet was provided on site.</li></ul>
<b>Disposal of Construction &amp; Demolition Material</b> <ul style="list-style-type: none"><li>- Public Fill</li><li>- Construction &amp; Demolition (C&amp;D) Waste</li></ul>	<ul style="list-style-type: none"><li>- No public fill material was disposed.</li><li>- No C&amp;D waste was disposed.</li></ul>
<b>Disposal of Hazardous Waste</b> <ul style="list-style-type: none"><li>- Chemical Waste</li></ul>	<ul style="list-style-type: none"><li>- Chemical waste was being stored in the chemical containers and housed in a proper place.</li><li>- The Contractor had appointed Wing Tat Transportation Company (waste collector) to dispose of spent lube oil (~200L) at Dunwell Ind. (Holding) Ltd (Reception point) on 12 April 2003.</li></ul>

<b>Management of Solid and Liquid Waste</b>	<b>Status</b>
<b>Avoidance/ Minimization of Waste</b>  - Reuse of Material  - Recycle of Material  - Disposal of General Refuse	-Excavated material has been properly stockpiled and awaiting backfilling.  - Waste material was segregated into different categories.  -Separated recycling bins were provided for collection of aluminum cans, plastic bottles and waste paper. The Contractor has delivered recycled materials (Plastic bottles (4 pcs), Waste paper (4 kg) & Aluminum cans (10 pcs)) to the collector on 25 April 2003.  -The refuse bins and refuse container were provided.  -A total of 15 m <sup>3</sup> of general refuse was collected by the Waylung Waste Services Ltd. in April 2003.

## 1.6 Status of License and Permit

All permits / licenses / notification validated in the monitoring period are summarised in Table 1.2.

**Table 1.2 Environmental Licenses and Permits**

<b>Description</b>	<b>Permit/ Reference No.</b>	<b>From</b>	<b>To</b>	<b>Section/PME</b>	<b>Status</b>
Application for chemical waste producer registration	TS20011042-001	Whole period		Construction Site	Valid
Notification of const. Work under APCO (CONST DUST)	TS20010805-001	Whole period		Construction Site	Valid
Construction Noise Permit	GW-UW0408-02	06/1/03	05/7/03	Concrete lorry mixer(4), Dump truck(2), Excavator, tracked(2),poker (4), Generator, compactor vibratory, lorry with crane, crane, power rammer, roller vibratory, concrete dump (2), saw, circular, wood(4)	Valid
Water Discharge License@	EP742/972/003 1261	19/6/02	30/6/07	Discharge point	Valid

@ No water was sampled for analysis since the Contractor had stopped discharging construction effluent at the discharge point.

## **2 ENVIRONMENTAL ISSUES AND ACTIONS**

### **2.1 Review of Follow-up Actions for Non-compliances**

The following actions have been taken in response to the deficiencies:

- The Contractor had replaced part of the damaged sandbag with the intact ones.
- The Contractor had removed the stagnant water, which accumulated at the site after rainy days.
- The Contractor had properly discharged the wastewater into nearby storm drain.
- The Contractor had removed the accumulated water and covered the constructed manholes with cement.

### **2.2 Status of Implementation of Mitigation Measures**

Four regular site audits were conducted in the reporting month to check the implementation status of the mitigation measures recommended in the Environmental Permit, the EIA Report, the EM&A Manual and the contract document. The implementation status of the mitigation measures was detailed in the site inspection records, which were kept by the Contractor on site and available for inspection. The implementation status of the mitigation measures was overall satisfactory. Particular implemented mitigation measures are described as follows:

- A wheel washing bay was provided at the site exit. Water sprinklers, water truck and water hoses were provided on site to suppress the dust emission. The Contractor had provided more water sprinklers at the dusty areas.
- Chemical waste containers and chemical waste storage place were provided.
- Stockpiled materials were properly compacted and covered with the tarpaulin sheets to prevent fugitive dust emission and contamination of surface runoff.
- A portable toilet, refuse bins and refuse container were provided on site.
- Construction waste was segregated. Aluminum cans, plastic bottles and waste paper were separately collected and delivered to the collector for recycling.
- Excavated materials were properly stockpiled for future use.
- De-silting tanks were provided on site to treat the muddy construction effluent before discharging into nearby storm drain.
- Perimeter channels were provided at the site boundary to intercept the surface runoff.



## **4 CONCLUSIONS**

Four regular site audits were conducted in the reporting month to check the implementation status of the mitigation measures and any non-compliance with the environmental requirements.

The implementation status of the mitigation measures was overall satisfactory although minor deficiencies were observed. The deficiencies were not likely causing any immediate environmental problem. Overall, the environmental condition of the site was satisfactory.

In view of the low quantities of recycled materials, the Contractor was advised to encourage their site staff to recycle material on the site as far as practicable. Apart from that, the Contractor should take precautionary measures to prevent transmission of Dengue Fever such as avoiding accumulation of rainwater and removing stagnant water as soon as possible to avoid mosquitoes breeding.

No complaint was received during the reporting period. There was also no notification of summonses and successful prosecutions.

**Summary of Complaints****Appendix A**

<b>Environmental Parameters</b>	<b>Cumulative no. Brought forward</b>	<b>No. of complaint April 2003</b>	<b>Overall total</b>
Noise	0	0	0
Air	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

**Details of Complaints**

<b>Date</b>	<b>Complainant</b>	<b>Detail</b>	<b>Action taken</b>
----	----	----	----

**Details of Outstanding Issues / Deficiencies****Appendix B**

<b>Outstanding Issues / Deficiencies</b>	<b>Action taken</b>
<ul style="list-style-type: none"><li>• It was observed that a lot of rainwater accumulated at the site areas after recent rainstorms. The Contractor was advised to remove the stagnant water as soon as possible to prevent breeding of mosquitoes if infiltration through soil alone was not practicable.</li><li>• The Contractor was advised to replace the remaining damaged sandbags as soon as possible to intercept the silt and soils in the contaminated surface runoff to prevent them from entering the storm drain.</li><li>• It was noted that wastewater pumped out from the work area was not properly treated and spilled over the access road of existing DSD treatment plant. The Contractor should properly discharge the wastewater into nearby storm drain after sedimentation.</li><li>• It was noted that stagnant water was accumulated at constructed manholes of the site area. The Contractor was advised to remove the accumulated water after sedimentation to prevent breeding of mosquitoes.</li><li>• It was reiterated that a lot of rubbish accumulated at the perimeter channel located at the back of the Contractor's site office. The Contractor should carry out clearance work of the channel without further delay to avoid flooding since the wet season had approached.</li></ul>	<ul style="list-style-type: none"><li>• The Contractor had removed the stagnant water, which accumulated at the site after rainy days.</li><li>• The Contractor had replaced part of the damaged sandbag with the intact ones.</li><li>• The Contractor had properly discharged the wastewater into nearby storm drain.</li><li>• The Contractor had removed the accumulated water and covered the constructed manholes with cement.</li></ul>

**Site Audit Schedule for May 2003**

**Appendix C**

2 May 2003	9 May 2003	16 May 2003	23 May 2003	30 May 2003
------------	------------	-------------	-------------	-------------