Sun Fook Kong (Civil) Ltd.

Contract No. DC/2002/06

Construction of Yuen Long Bypass Floodway

Environmental Monitoring and Audit Monthly Report (Version 1)

February 2005

Certified 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.

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ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
FEP	Further Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RH	Relative Humidity
TSP	Total Suspended Particulates
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

EXECUTIVE SUMMARY

A) Introduction

This is the twenty-fourth monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the project "Construction of Yuen Long Bypass Floodway" (the Project). This report documents the findings of EM&A Works conducted in February 2005 (25th of each month as the cut-off day, i.e. 26th January 2005 to 25th February 2005).

The construction activities undertaken in the reporting month were:

- construction of channel walls;
- excavation works;
- backfilling works;
- ramp construction;
- construction of pumping station;
- box culvert constructions; and
- channeling works.

B) Environmental Monitoring Works

Environmental monitoring for the Project was performed regularly as stipulated in the Updated EM&A Manual and the results were checked and reviewed. Site audits were conducted once per week. Implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

B1 Air Quality

1-hour TSP Monitoring

The 1-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power supply failure of the air monitoring equipment and at the station B on 7 February 2005 due to Lunar New Year School Holiday. Thus, no monitroing for 1-hr TSP result was conducted on the corresponding days at these stations. Action level exceedances were recorded at stations A and B on 28 January 05 and no Limit level exceedance was recorded in the reporting month. However, no direct evidence showed that the exceedances were due to the Project.

24-hour TSP Monitoring

The 24-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power supply failure of the air monitoring equipment and at the station B on from 8 February 2005 to 14 February 2005 due to Lunar New Year School Holiday. Thus, no monitoring for 24-hrs TSP result was conducted on the corresponding days at these stations. No Action/ Limit level exceedance was recorded in the reporting month.

B2 Construction Noise

Construction noise monitoring was conducted as scheduled month except at the location N3 on 7

February 2005 due to Lunar New Year School Holiday. Thus, no noise monitoring was conducted on 7 February 2005 at this station. No Action/Limit Level exceedance was recorded in the reporting month.

B3 Water Quality

Water quality monitoring was conducted as scheduled. No Action/Limit Level exceedance was recorded in the reporting month.

C) Environmental Licensing and Permitting

License/Permits granted to the Project include the Further Environmental Permit (FEP), Variation of Environmental Permit (VEP), Wastewater Discharge License, Chemical Waste Producer Registration and Construction Noise Permit (CNP). The FEP for the Project was attached in the monthly EM&A report for March 2003. The VEP were attached in of the monthly EM&A report for May 2003. The new issued CNP is attached in this monthly EM&A report. The Chemical Waste Producer Registration was attached in the monthly EM&A report for January 2004. The Wastewater Discharge License was attached in the monthly EM&A report for June 2004.

D) Complaints and Prosecutions

No prosecution was received in the reporting month.

One environmental complaint from public was received on 5 February 2005 about the sediment deposited at the existing channel connecting to box culvert BC11 by Drainage Services Department (DSD). DSD subsequently referred the complaint to the Independent Environmental Checker (IEC) of the Project on 7 February 2005 and the IEC forwarded the complaint to the Environmental Team (ET) Leader of the Project on 8 February 2005 for investigation.

According to the Contractor, construction works for box culvert BC11, which will connect to the existing live channel has been commenced. In order to avoid the pollution of the water in the channel due to the Project during construction, a sandbag bund, a pump and a plastic conduit were provided to divert the water beyond the site boundary to Access Ramp AR7. This is an acceptable mitigation measure was preventing the pollution of local water in channel.

The sandbag bund along the site boundary was provided to serve as a sump pit to collect the water in the channel. A layer of foam was formed on the surface layer of the accumulated water. Such layer of foam was formed due to the poor quality of water in live channel. It was also believed that such foam was wrongly considered as the sediment (as stated in the complaint) in the water.

The environmental complaint was not supported based on the available information from the RSS and the Contractor. Such practice is an effective water pollution control measure and widely adopted on construction site to prevent the local water from being polluted by construction works. However, it was recommended that the Contractor should take special precaution to the condition of water in channel such as cleaning and removing the foam on the surface layer of water frequently and spraying anti-mosquito repellent if necessary.

E) Future Key Issues

Major construction site activities for the coming month are listed as below:-

- construction of channel walls;
- excavation works;
- backfilling works;
- ramp construction;
- construction of pumping station;
- box culvert constructions; and
- channeling works

Surface runoff generated in occasional rainy days during construction work is a future key issue.

1. INTRODUCTION

Background

1.1 Serious flooding has occurred in and around Yuen Long Town at least seven times over the last fifteen years. Government studies including the Northwest New Territories (NWNT) Base Strategy Studies, TELADFLOCCOSS I and II and the NWNT Village Flood Protection Study have identified the major causes of flooding and recommended appropriate mitigation measures. The studies identified that the capacity of the Yuen Long Nullah drainage system was inadequate mainly due to rapid urban growth over the last 20 years which has reduced the flood plain storage capacities and increased runoff volumes. In addition Yuen Long Town has a relatively low ground level and the drainage design standards and methods used at the time were less rigorous than present design requirements. The studies recommended the construction of a Bypass Floodway as the most cost-effective option for providing additional drainage capacity to cater for present needs and to provide additional capacity for new development in the area to the south of Yuen Long.

1.2 The Yuen Long Bypass Floodway is therefore to be designed to divert part of the flows entering the Yuen Long Drainage system from the south of Yuen Long into the Kam Tin River Floodway, which is at present under construction, to reduce the risk of flooding in Yuen Long Town. The Project site layout is shown in ***Figure 1.1.***

1.3 The Project works mainly comprise the construction and operation of a drainage channel (YLBF) from the south side of Yuen Long to the Kam Tin River. The Project works was scheduled to commence in March 2003.

1.4 According to the EIAO, this Project is a designated project. The Further Environmental Permit (FEP) No. FEP 01-075-2003 was issued on 6 February 2003 and Variation of Environmental Permit (EP-01/075/2003/A) was issued on 19 May 2003 for this project to the Sun Fook Kong (Civil) Limited (hereinafter called the "Contractor") as Permit Holder. An Updated Environmental Monitoring and Audit Manual (Updated EM&A Manual) was prepared to fulfill requirement stipulated in the Particular Specification Clause 1.106(6).

1.5 Cinotech Consultants Limited was commissioned by Sun Fook Kong (Civil) Limited to provide professional services for "Contract No. DC/2002/06 – Environmental Team (ET) for Construction of the Yuen Long Bypass Floodway". This Environmental Monitoring and Audit Reports were prepared by Cinotech for the Project prior to the commencement of any construction activity for the Yuen Long Bypass Floodway in accordance with the Updated EM&A Manual.

Project Organizations

1.6 Different parties with different levels of involvement in the project organization include:

- Engineer or Engineer's Representative (E/ER) – Drainage Services Department (DSD)
- Environmental Team (ET) – Cinotech Consultants Limited
- Independent Environmental Checker (IEC) – CH2M-IDC Hong Kong Limited
- Contractor – Sun Fook Kong (Civil) Ltd.

1.7 The responsibilities of respective parties are detailed in Section 1 of the Updated EM&A Manual and the project organization chart is presented in ***Figure 1.2***.

1.8 The key contacts of the Project are shown in ***Table 1.1***.

Table 1.1 Key Project Contacts

Party	Name	Role	Phone No.	Fax No.
DSD	Mr. Nelson IP	Engineer Representative	2594 7576	2827 8700
ET	Dr. Priscilla Choy	ET Leader	2151 2083	3107 1388
	Miss Lighting Chan	Audit Team Leader	2151 2079	3107 1388
	Mr. Henry Leung	Monitoring Team Leader	9779 7340	3107 1388
IEC	Mr. David Yeung	Independent Environmental Checker	2507 2203	2507 2293
Contractor	Mr. Wallace Lee	Project Manager	2448 0683	2448 0260
	Ms. Alice Leung	Engineer	2448 0683	2448 0260

Construction Programme

1.9 The construction activities undertaken in the reporting month were:

- construction of channel walls;
- excavation works;
- backfilling works;
- ramp construction;
- construction of pumping station;
- box culvert constructions and
- channeling works.

Summary of EM&A Requirements

1.10 The EM&A programme requires construction phase monitoring for air quality, construction noise, water quality and environmental site audits. The Updated EM&A Manual requirements for each parameter are described in following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event / Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.11 The advice on the implementation status of environmental protection and pollution

control/mitigation measures is summarized in Section 5 of this report.

1.12 This report presents the monitoring results, observations, locations, equipments, period, methodology and QA/QC procedures of the required monitoring parameters, namely dust, water quality and noise levels and audit works for the Project in February 2005.

2. AIR QUALITY

Monitoring Requirements

2.1 1-hour and 24-hour TSP monitoring was conducted to monitor the air quality. ***Appendix A*** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

2.2 Three designated monitoring stations, A, B and C were selected for impact dust monitoring. Table 2.1 describes the air quality monitoring locations. ***Figure 2.1*** shows the locations of these stations.

Table 2.1 Locations for Air Quality Monitoring Station

Monitoring Stations	Description
A	Village house at No. 60, Kong Tau Tsuen
B	Small Traders New Village Public School Yuen Long
C	豪州嶺 1 號

Monitoring Equipment

2.3 Table 2.2 summarizes the equipment used in the impact air monitoring programme. Calibrations of equipments are conducted once per two months. Copies of renewed calibration certificates for the reporting month are attached in ***Appendix B***.

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make	Qty.
HVS Sampler	Graseby GMW Model GS2310 High Volume TSP Sampler and associated equipment and shelter in accordance with the USA standard Title 40, code of Federal regulations, Chapter 1 (part 50), Appendix B	3
Calibrator	GMW 25	1

Monitoring Parameters, Frequency and Duration

2.4 Table 2.3 summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for this reporting period is shown in ***Appendix C***.

Table 2.3 Impact Dust Monitoring Parameters, Frequencies and Durations

Parameters	Frequency
1-hour TSP	Three times / 6 days
24-hour TSP	Once / 6 days

Monitoring Methodology and QA/QC Procedures

1-hour and 24-hour TSP Monitoring

Instrumentation

2.5 High volume samplers (HVS) (Model GMWS-2310 Accu-Vol) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50) Appendix B. Moreover, the HVS also met all the requirements in section 2.3 of the EM&A Manual.

Operating/Analytical Procedures

2.6 The details of operating/analytical procedures for dust monitoring are described in the previous EM&A Monthly reports.

Maintenance/Calibration

2.7 The details of requirements of maintenance/calibration are described in the previous EM&A Monthly reports.

Results and Observations

2.8 Dust monitoring was conducted as scheduled in the reporting period. The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in ***Appendices D*** and ***E*** respectively.

2.9 A wind data monitoring equipment was installed at monitoring station B for logging wind speeds and wind directions. The wind data for the reporting month are summarized in ***Appendix G***.

2.10 The weather during the monitoring session was mainly sunny or cloudy. Weather conditions on the monitoring days are provided in ***Appendices D*** and ***E***.

1-hour TSP Monitoring

2.11 The 1-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power supply failure of the air monitoring equipment and at the station B on 7 February 2005 due to Lunar New Year School Holiday. Thus, no monitoring for 1-hr TSP result was conducted on the corresponding days at these stations. Action level exceedances were recorded at station A and B on 28 January 2005 and no Limit level exceedance was recorded in the reporting month. However, no direct evidence showed that the exceedances were due to the Project.

2.12 According to our field observation, the exceedance at station B was not due to the Project since there was no construction activity during monitoring period. In addition, the

exceedance at station A was due to the dust generated by vehicle movements at nearby temporary carpark.

2.13 As such, no direct evidence showing such exceedances were due to Project.

2.14 The exceedance report was shown in ***Appendix J***.

24-hour TSP Monitoring

2.15 The 24-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power supply failure of the air monitoring equipment and at the station B on from 8 February 2005 to 14 February 2005 due to Lunar New Year School Holiday. Thus, no monitoring for 24-hrs TSP result was conducted on the corresponding days at these stations.

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

3. NOISE

Monitoring Requirements

3.1 Noise monitoring was conducted in accordance with the Updated EM&A Manuals. ***Appendix A*** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 Noise monitoring was conducted at three designated monitoring stations, namely N1, N2 and N3, as summarized in Table 3.1. ***Figure 3.1*** shows the locations of these stations.

Table 3.1 Noise Monitoring Stations

Monitoring Stations	Description
N1	At ground level of Village house at No.49-50, Shung Ching San Tsuen
N2	At ground level of Village house at No.17 Chuk San Tsuen
N3	On roof of Small Traders New Village Public School besides the Pok Oi Hospital

Monitoring Equipment

3.3 Integrating Sound Level Meters were used for noise monitoring. They were Type 1 sound level meters capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x). They comply with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1).

3.4 Table 3.2 summarizes the noise monitoring equipment model being used. Calibrations of equipments are conducted annually. Copies of renewed calibration certificates for the reporting month are attached in ***Appendix B***.

Table 3.2 Noise Monitoring Equipment

Equipment	Model and Make	Qty.
Integrating Sound Level Meter	B&K Model 2238	4
	Rion NL14	1
Calibrator	B&K 4231	2
Wind Speed Anemometer	Vane Anemometer, Model 451104	1

Monitoring Parameters, Frequency and Duration

3.5 Table 3.3 summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in ***Appendix C***.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter	Period	Frequency	Measurement
N1	L_{10}(30 min.)dB(A) L_{90}(30 min.)dB(A) L_{eq}(30 min.)dB(A)	0700-1900 on normal weekdays	Once per week	Free field + 3dB correction
N2				Free field + 3dB correction
N3				Facade

Monitoring Methodology and QA/QC Procedures

3.6 The details of operating/analytical procedures for noise monitoring are described in the previous EM&A Monthly reports.

Maintenance and Calibration

3.7 The details of requirements of maintenance/calibration are described in the previous EM&A Monthly reports.

Results and Observations

3.8 Noise monitoring was performed at the designated locations during the daytime period (0700 to 1900) as scheduled in the reporting month except at the location N3 on 7 February 2005 due to Lunar New Year School Holiday. Thus, no noise monitoring was conducted on 7 February 2005 at such station. Results and graphical presentations are shown in ***Appendix F***.

3.9 The weather during the monitoring sessions was mainly cloudy. Weather conditions are provided in ***Appendix F***.

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

4. WATER QUALITY

Monitoring Requirements

4.1 Water quality monitoring was conducted in accordance with the Updated EM&A Manual. Compliance Levels for the environmental monitoring works are shown in ***Appendix A***.

Monitoring Equipment

4.2 Table 4.1 summarizes the equipment used in the water quality monitoring program. All the monitoring equipments complied with the specifications stipulated in the Updated EM&A Manual. Calibrations of equipments are conducted quarterly. Copies of renewed calibration certificates for the reporting month are attached in ***Appendix B***.

Table 4.1 Water Quality Monitoring Equipment

Equipment	Model and Make	Qty.
Multi-parameter Water Quality System	YSI 6820	2
Monitoring Position Equipment	"Magellan" Handheld GPS Model GPS-320	1

Monitoring Parameters, Frequencies and Durations

4.3 Table 4.2 summarizes the monitoring parameters, monitoring periods and frequencies of water quality monitoring. The water quality monitoring schedule for this reporting period is shown in ***Appendix C***.

Table 4.2 Water Quality Monitoring Parameters and Frequencies

Monitoring Station	Parameters	Frequencies
W1	DO, Turbidity, pH, NH_4-N and Temperature	Once per week during mid ebb
W2.1, W2.2 (Before 6/7/04) DP1-DP8 (After 6/7/04)	pH and Temperature	Once per week (during mid ebb at ultimate discharge)
	COD and SS	Once per month (during mid ebb at ultimate discharge)

Monitoring Locations

4.4 The Updated EM&A Manual specifies one water quality monitoring location for mixing zone of YLBF and Kam Tin River and other locations for all site discharges. Water quality monitoring. Table 4.3 describes the location of these monitoring stations. According to ET's facsimile (Ref.: MA2049/Corres/Out/an40706v2), the monitoring locations of W2.1 and W2.2 were relocated on 6 July 2004. The revised monitoring locations were shown in ***Figure 4.1***.

Table 4.3 Location for Impact Water Quality Monitoring Stations

Monitoring Station	Coordinate
W1	823000.7E 834889.7N
W2.1, W2.2 (Before 6/7/04) DP1-DP8 (After 6/7/04)	To follow actual discharge location on site.(1)

Note: 1) Monitoring will be conducted according to the monitoring schedule and water sample will be taken for analysis if water discharge from the construction site was observed at these locations.

Monitoring Methodology, Calibration Details and QA/QC Procedures

Operating/Analytical Procedures

4.5 The details of operating/analytical procedures for noise monitoring are described in the previous EM&A Monthly reports.

Maintenance and Calibration

4.6 The details of requirements of maintenance/calibration are described in the previous EM&A Monthly reports.

Results and Observations

4.7 Water quality monitoring was conducted as scheduled in the reporting month and no Compliance Level exceedance was recorded.

4.8 The monitoring data and graphical presentations of the monitoring results are shown in ***Appendix H***.

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.

5.2 The site audits for the reporting month were conducted on 28 January, 2, 17 and 25 February 2005. The summaries of site audit are attached in ***Appendix I***.

Review of Environmental Monitoring Procedures

5.3 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

Air Quality Monitoring

- The monitoring team recorded all observations around the monitoring stations within and outside of the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring day.

Noise Monitoring

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

Water Quality Monitoring

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- The monitoring team recorded the temperature and weather conditions on the monitoring day.

Status of Environmental Licensing and Permitting

5.4 All permits/licenses obtained are summarized in Table 5.1.

Table 5.1 Summary of Environmental Licensing and Permit Status

Permit No.	Valid Period		Section	Status
	From	To		
Further Environmental Permit				
FEP-01/075/2003	6/2/2003	N/A	A drainage channel of width less than 100m. The scope of the project includes construction of i) A main drainage channel from Yuen Long Main Nullah to Kam Tin Channel. The channel will have concrete lined bed with grasscrete sides; ii) An ancillary road system; iii) Association pumping facilities; and iv) Landscaping works.	Valid
Variation of Environmental Permit				
EP-01/075/2003/A	19/5/2003	N/A	Vary Condition 3.6 in Part C of the FEP-01/075/2003 and add Figure 5 to FEP-01/075/2003.	Valid
Chemical Waste Producer				
5118-523-S3090-05	15/1/2004	N/A	License to produce chemical waste types of spent lubricating oil, spent dry battery and waste paint containers.	Valid
Construction Noise Permit				
GW-RN8053-04	21/12/2004	20/06/2005	Noise permit for BC13 on evening time and holidays.	Valid
Wastewater Discharge License				
1U370/2	24/5/2004	28/2/2008	Effluent arising from construction site	Valid

Status of Waste Management

5.5 The amounts of wastes generated by the activities of the project in February 2005 are shown in ***Appendix K***.

5.6 The solid waste generated from the Project site office was mainly general refuse that was collected by a licensed collector on an as need basis.

Implementation Status of Weekly Site Audit and Mitigation Measures

5.7 During the site inspections in the month, the following observations and recommendations were made.

Water Quality

5.8 Stagnant water was observed at site area opposite to Pok Oi Hospital. The Contractor was reminded to backfill the uneven ground which served as a mean for the accumulation of water.

5.9 The plastic conduit which released the sludge from chemical enhanced primary treatment plant should be diverted to the sludge pit for disposal instead of just leaving on ground without control at BC8.

5.10 Overflow was observed from the malfunctioned chemical enhanced primary treatment plant at BC8. The Contractor was urged to maintain the plant and provide a good maintenance service and schedule to all de-silting facilities on site.

Air Quality

5.11 No environmental deficiency was observed during site inspection.

Noise

5.12 No environmental deficiency was observed during site inspection.

Chemical and Waste Management

5.13 Rubbish was observed near BC11. The Contractor was reminded to clear and remove rubbish regularly to maintain a good house-keeping.

Permit / Licenses

5.14 No environmental deficiency was observed during site inspection.

Environmental Mitigation Implementation Schedule (EMIS)

5.15 According to the Environmental Permit and the Updated EM&A Manuals, the mitigation measures detailed in the documents are required to be implemented. A summary of the EMIS is described in the previous EM&A Monthly reports.

Summary of Exceedances of the Environmental Quality Performance Limit

5.16 The summary of exceedances(s) is presented in ***Appendix J***.

5.17 No exceedance due to the Project was recorded in this reporting month.

Implementation Status of Event Action Plans

5.18 The Event Action Plans for air quality, noise and water quality are presented in the Updated EM&A Manual.

5.19 The 1-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power supply failure of the air monitoring equipment and at the station B on 7 February 2005 due to Lunar New Year School Holiday. Thus, no monitoring for 1-hr TSP result was conducted on the corresponding days at these stations. Action level exceedance were recorded at stations A and B on 28 January 2005 and no Limit level exceedance was recorded in the reporting month. However, no direct evidence showing such exceedances were due to the Project.

5.20 The 24-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power supply failure of the air monitoring equipment and at the station B on from 8 February 2005 to 14 February 2005 due to Lunar New Year School Holiday. Thus, no monitoring for 24-hrs TSP result was conducted on the corresponding days at these stations. No Action/Limit Level exceedance was recorded in the reporting month.

5.21 Construction noise monitoring was conducted as scheduled except at the location N3 on 7 February 2005 due to Lunar New Year School Holiday. Thus, no noise monitoring was conducted on 7 February 2005 at such station. No Action/Limit Level exceedance was recorded in the reporting month.

5.22 Water quality monitoring was conducted as scheduled. No Compliance Level exceedance was recorded in the reporting month.

Summary of Complaints and Prosecutions

Complaint at Site Area the Existing Channel Connecting to Box Culvert BC11 (DSD ref.: DSD's Ref.: DP/8/7070CD/DC0206/88)

5.23 Drainage Services Department (DSD) received a public complaint on 5 February 2005 about the sediment deposited at the existing channel connecting to box culvert BC11. DSD subsequently referred the complaint to the Independent Environmental Checker (IEC) of the Project on 7 February 2005 and the IEC forwarded the complaint to the Environmental Team (ET) Leader of the Project on 8 February 2005 for investigation.

5.24 According to the Contractor, construction works for box culvert BC11 which will connect to the existing live channel has been commenced. In order to avoid the pollution of the water in such channel due to the Project during construction, a sandbag bund, a pump and a plastic conduit were provided to divert the water which beyond the site boundary to Access Ramp AR7. This is an acceptable mitigation measure to prevent the pollution of local water in channel.

5.25 The sandbag bund along the site boundary was provided to serve as a sump pit to collect the water in the channel. A layer of foam was formed on the surface layer of the accumulated water. Such layer of foam was formed due to the poor quality of water in live channel. It was also believed that such foam was wrongly considered as the sediment (as stated in the complaint) in the water.

5.26 The environmental complaint was not supported based on the available information from the RSS and the Contractor. Such practice is an effective water pollution control measure and widely adopted on construction site to prevent the local water from being polluted by construction works. However, it is recommended that the Contractor should take special precaution to the condition of water in channel such as cleaning and removing the foam on the surface layer of water frequently and spraying anti-mosquito repellent if necessary.

5.27 The investigation report was submitted on 16 February 2005.

Environmental Meeting

5.28 Environmental and safety trainings were conducted by the Contractor and their sub-contractors in the reporting month. The related minutes are extracted and attached in ***Appendix N***.

5.29 A monthly environmental meeting was conducted by DSD, Contractor, IEC and ET on 17 February 2005.

6. FUTURE KEY ISSUES

Key Issues for the Coming Month

6.1 Key issues to be considered in the coming month include:

- Generation of dust from stockpiles, haul road and vehicles movement on-site;
- Noise from operation equipment and machinery on-site;
- Regular removal of demolished wastes;
- Regular removal of mud, sand and silt along drainage channel;
- Wastewater discharge from site;
- Storage of chemicals/fuel and chemical waste/waste oil on site; and
- Surface runoff from site and wheel washing bay.

Monitoring Schedule for the Next Month

6.2 The environmental monitoring schedule for the next month is shown in ***Appendix C***.

7. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

7.1 The Project was commenced on 20th March 2003. Environmental monitoring works were performed in the reporting month and all the monitoring results were checked and reviewed.

1-hr TSP

7.2 The 1-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power disruption of the air monitoring equipment and at the station B on 7 February 2005 due to Lunar New Year School Holiday. Thus, no monitoring for 1-hr TSP result was conducted on the corresponding days at these stations. Action level exceedance were recorded at stations A and B on 28 January 2005 and no Limit level exceedance was recorded in the reporting month. However, no direct evidence shown such exceedances were due to the Project.

24-hr TSP

7.3 The 24-hour TSP monitoring was conducted as scheduled except at the station C from 14 February 2005 to 22 February 2005 due to the power supply failure of the air monitoring equipment and at the station B on from 8 February 2005 to 14 February 2005 due to Lunar New Year School Holiday. Thus, no monitoring for 24-hrs TSP result was conducted on the corresponding days at these stations. No Action/ Limit Exceedance was recorded in the reporting month.

Construction Noise

7.4 Construction noise monitoring was conducted as scheduled except at the location N3 on 7 February 2005 due to Lunar New Year School Holiday. Thus, no noise monitoring was conducted on 7 February 2005 at such station. No Action/Limit Level exceedance was recorded in the reporting month.

Water Quality

7.5 Water quality monitoring was conducted as scheduled. No Compliance Level exceedance was recorded in the reporting month.

Complaint and Prosecution

7.6 No prosecution was received in the reporting month.

7.7 One environmental complaint from public was received on 5 February 2005 about the sediment deposited at the existing channel connecting to box culvert BC11 by Drainage Services Department (DSD). DSD subsequently referred the complaint to the Independent Environmental Checker (IEC) of the Project on 7 February 2005 and the IEC forwarded the complaint to the Environmental Team (ET) Leader of the Project on 8 February 2005 for investigation.

7.8 According to the Contractor, construction works for box culvert BC11 which will connect to the existing live channel has been commenced. In order to avoid the pollution of the water in the channel due to the Project during construction, a sandbag bund, a pump and a plastic conduit were provided to divert the water which beyond the site boundary to Access Ramp AR7. This is an acceptable mitigation measure to prevent the pollution of local water in channel.

7.9 The sandbag bund along the site boundary was provided to serve as a sump pit to collect the water in the channel. A layer of foam was formed on the surface layer of the accumulated water. Such layer of foam was formed due to the poor quality of water in live channel. It was also believed that such foam was wrongly considered as the sediment (as stated in the complaint) in the water.

7.10 The environmental complaint was not supported based on the available information from the RSS and the Contractor. Such practice is an effective water pollution control measure and widely adopted on construction site to prevent the local water from being polluted by construction works. However, it is recommended that the Contractor should take special precaution to the condition of water in channel such as cleaning and removing the foam on the surface layer of water frequently and spraying anti-mosquito repellent if necessary.

7.11 The investigation report was submitted on 16 February 2005.

Recommendations

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

Dust Impact

- To prohibit any open burning on site.
- To regularly maintain the machinery and vehicles on site.
- To implement dust suppression measures on all haul roads, stockpiles and dry surfaces.
- To provide sufficient dust control measures on site especially for present dry season.

Noise Impact

- To inspect the noise sources from inside and outside of the site.
- To space out noisy equipment and position as far away as possible from sensitive receivers.
- To schedule noisy activities in order to minimize noise level expose to nearby sensitive receivers.
- To liaise with schools and Examination Authority for examination times during contract period and liaise with Pok Oi Hospital on timing as well as duration of project. Noise shall be considered as an environmental constraint.

Water Impact

- To identify any wastewater discharges from site.
- To install sand traps or other means at discharge points.
- To regularly maintain the condition of u-channel and catch pits.
- To avoid stagnant water accumulation on site.
- To size and employ sedimentation tanks with sufficient capacity.
- To construct temporary ditch diverting surface runoff back to the site for soak away or other appropriate treatment.
- To prevent surface runoff on the public road from the wheel washing bay or facilities.

Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site.
- To check for any oil/chemical leakage from drip tray or chemical storage areas.
- To avoid any discharge of chemical waste or oil directly from the site.

Permit / Licenses

- To display the EP and applicable CNP conspicuously on the construction sites at all site entrances/exits or at a convenient location for public information at all time.