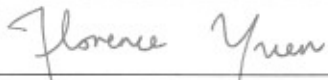


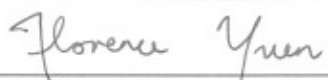
Contract No. HY/2003/04

**Improvement to Castle Peak Road
between Ka Loon Tsuen and Siu Lam**

Monthly EM&A Report for July 2005

August 2005


Reviewed by (PM):


Checked by:


Approved by:
Environmental Team Leader

Report Version: <u>Revision 0</u>	Date of Submission: <u>10 August 2005</u>
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The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client and MEMCL accepts no responsibility for its use by others.

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EXECUTIVE SUMMARY

Introduction

Maunsell Environmental Management Consultants Limited (MEMCL) is the designated Environmental Team (ET) for "Improvement to Castle Peak Road between Ka Loon Tsuen and Siu Lam" (The Project). This is the thirteenth monthly Environmental Monitoring and Audit (EM&A) report prepared by MEMCL for the Project. The EM&A programme for the Project commenced on 16 July 2004. This report documents the findings of EM&A Works conducted in the month of July 2005 (1 to 31 July 2005).

As informed by the Contractor, construction activities in the reporting period were:

- Reclamation and seawall construction;
- Viaduct and new road construction; and
- Reconstruction of Castle Peak Road.

A summary of monitoring and audit activities conducted in the reporting period is listed below:

1-hour TSP monitoring	5 sessions
24-hour TSP monitoring	5 sessions
Daytime noise monitoring	4 sessions
Water quality monitoring	13 sessions
Environmental site inspection	4 sessions

Breaches of Action and Limit Levels

Air Quality

All 1-hour and 24-hour TSP monitoring results recorded in the month complied with the Action and Limit Levels.

Construction Noise

All noise monitoring results recorded in the month complied with the Action and Limit Levels.

Water Quality

Twenty-seven Action Level exceedances of dissolved oxygen were recorded in the month. All exceedances recorded in the month were concluded not due to construction works of the Project. No further mitigation is recommended.

Implementation Status of Environmental Mitigation Measures

In general, the Contractor satisfactorily implemented all the required mitigation measures and was reasonably responsive to the ET's recommendations on any discrepancy observed during the weekly environmental site inspection.

Environmental Complaints, Notification of Summons and Successful Prosecutions

No environmental complaint, notification of summons or successful prosecution was received or made against this Project in the month.

Reporting Changes

No reporting change was required in the month.

Future Key Issues

Key issues to be considered in the coming month include:

- Generation of dust from activities on-site;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site; and
- Management of chemicals and avoidance of oil spillage;

1. INTRODUCTION

Background

- 1.1 Maunsell Environmental Management Consultants Limited (MEMCL) (hereinafter called the "ET") was appointed by Gammon Construction Limited (GCL) (hereinafter called the "Contractor") to undertake Environmental Monitoring and Audit for "Improvement to Castle Peak Road between Ka Loon Tsuen and Siu Lam" (hereinafter called the "Project"). Under the requirements of Section 4 of Environmental Permit EP-171/2003/A and Further Environmental Permit EP-01/171/2004/A, EM&A programme as set out in the approved EM&A Manual is required to be implemented. In accordance with the approved EM&A Manual, environmental monitoring of air quality, noise and water quality and environmental site inspections are required for the Project.

Scope of Report

- 1.2 The EM&A programme for the Project commenced on 16 July 2004. This report presents a summary of the environmental monitoring and audit works, list of activities, and mitigation measures for the Project in July 2005 (from 1 to 31 July 2005).

Project Organisation

- 1.3 The organisation of the environmental management team is shown in Figure 1.1. Key personnel contacts are presented in Appendix A.

Environmental Status in the Reporting Month

- 1.4 The construction programme of the Project is provided in Appendix B. In the month, the following activities took place for the construction of the Project:

- Reclamation and seawall construction;
- Viaduct and new road construction; and
- Reconstruction of Castle Peak Road.

- 1.5 Layout plan of the Project work site is provided in Figure 1.2 a to e.

Summary of EM&A Requirements

- 1.6 The description and detailed locations of sensitive receivers and monitoring stations for air quality, noise and water quality are shown in Figures 2.1, 3.1 and 4.1 respectively and relevant sections of this Report.

- 1.7 The EM&A programme requires environmental monitoring for air quality, noise and water quality and environmental site inspections for air quality, noise, water quality, terrestrial ecology, landscape and visual, and waste management. The EM&A requirements for each parameter described in the following sections include:

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

- 1.8 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarised in Appendix L of the Report.

2. AIR QUALITY

Monitoring Requirements

- 2.1 1-hour and 24-hour TSP levels at two designated monitoring stations were monitored in the month in accordance with the EM&A Manual. Appendix C shows the established Action and Limit Levels for the environmental monitoring works.
- 2.2 The monitoring schedule for month is shown in Appendix D. Air quality monitoring stations for 24-hour and 1-hour TSP measurements are shown in Figure 2.1.

Monitoring Equipment

- 2.3 Portable dust meter was used to carry out 1-hour TSP monitoring. High volume sampler (HVS - Model GMWS-2310 Accu-Vol) completed with the appropriate sampling inlets was installed for 24-hour TSP sampling. The HVS meet all the requirements as specified in the updated EM&A Manual. Table 2.1 summarised the equipment that were used in the dust-monitoring programme.

Table 2.1 Air Quality Monitoring Equipment

Equipment	Model
Dust Meter (for 1-hour TSP measurement)	Laser Dust Monitor – Model LD-3
HVS (for 24-hour TSP measurement)	GMWS 2310 Accy-Vol system
Calibration Kit (for HVS)	GMW 25

Monitoring Parameters, Frequency and Duration

- 2.3 Table 2.2 summarised the monitoring parameters, frequency and duration of impact air quality monitoring.

Table 2.2 Air Quality Monitoring Parameters, Frequency and Duration

Parameter	Duration	Frequency
1-hour TSP	1 hour	3 times every six days
24-hour TSP	24 hours	Once every six days

Monitoring Locations

- 2.4 In accordance with the EM&A Manual, two air quality monitoring stations, as shown in Figure 2.1 were selected for 24-hour and 1-hour TSP sampling. Table 2.3 describes the location of the air quality monitoring stations.

Table 2.3 Locations of Air Quality Monitoring Stations

Monitoring Station	Identity / Description
AM1	Correctional Services Department Married Staff Quarters
AM2	Temple

Monitoring Methodology

1-hour TSP Monitoring

Monitoring Procedure

2.5 The measuring procedures of 1-hour TSP by a portable dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

- Set POWER to "ON", push BATTERY button, make sure that the meter's indicator is in the range with a red line and allow the instrument to stand for about 3 minutes (Then, the air sampling inlet has been capped).
- Push the knob at MEASURE position.
- Push "O-ADJ" button. (Then meter's indication is 0).
- Push the knob at SENSI ADJ position and set the meter's indication to S value described on the Test Report using the trimmer for SENSI ADJ.
- Pull out the knob and return it to MEASURE position.
- Push "START" button.

Maintenance and Calibration

- The 1-hour TSP dust meters are verified at 1-year intervals throughout all stages of the impact air quality monitoring.
- Calibration details for the dust meters are provided in Appendix E.

24-hour TSP Monitoring

Installation

2.6 The HVSs were installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVSs:

- A horizontal platform with appropriate support to secure the samplers against gusty wind was provided.
- The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
- A minimum of 2 meters separation from walls, parapets and penthouses was provided for rooftop sampler.
- No furnace or incinerator flues were nearby.
- Airflow around the sampler was unrestricted.
- Permission was obtained to set up the sampler and to obtain access to the monitoring stations.
- A secure supply of electricity was obtained to operate the sampler.

Preparation of Filter papers

- Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
- All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ± 3 °C; the relative humidity (RH) was < 50% and not variable by more than ± 5 %. A convenient working RH was 40%.
- *ALS Technichem (HK) Pty Ltd.* is a HOKLAS accredited laboratory which has comprehensive quality assurance and quality control programmes.

Monitoring Procedures

- The power supply was checked to ensure the HVSs work properly.
- The filter holder and the area surrounding the filter were cleaned.
- The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.

- The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
- The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges.
- Then the shelter lid was closed and secured with the aluminum strip.
- The HVSs were warmed-up for about 5 minutes to establish run-temperature conditions.
- A new flowrate record sheet was set into the flow recorder.
- The flow rate of the HVS was checked and adjusted at around 1.1 m³/min. The range was between 0.6-1.7 m³/min.
- The programmable timer was set for a sampling period of 24 hrs ± 1 hr, and the starting time, weather condition and the filter number were recorded.
- The initial elapsed time was recorded.
- At the end of sampling, the sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- It was then be placed in a clean plastic envelope and sealed.
- All monitoring information was recorded on a standard data sheet.
- Filters were sent to *ALS Technichem (HK) Pty Ltd.* for analysis.

Maintenance and Calibration

- The HVSs and their accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVSs are calibrated at bi-monthly intervals using GMW-25 Calibration Kit throughout all stages of the impact air quality monitoring.
- Calibration details for the HVSs are provided in Appendix E.

Results and Observations

- 2.7 Dust monitoring was conducted for both 1-hr TSP and 24-hr TSP at all designated monitoring stations in the month. Air quality monitoring results and graphical presentations are provided in Appendix F.

1-hour TSP Monitoring

- 2.8 All measured 1-hour TSP levels complied with the Action and Limit Levels in the month. A summary of 1-hour TSP monitoring results is presented in Table 2.4.

Table 2.4 Summary of Impact 1-hour TSP Monitoring Results

Monitoring Station	1-hour TSP (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	No. of Exceedance	
	Range			Action	Limit
AM1	84.6 – 114.7	311.2	500.0	Nil	Nil
AM2	94.9 – 144.8	368.6	500.0	Nil	Nil

24-hour TSP Monitoring

- 2.9 All measured 24-hour TSP levels complied with the Action and Limit Levels in the month. A summary of 24-hour TSP monitoring results is presented in Table 2.5.

Table 2.5 Summary of Impact 24-hour TSP Monitoring Results

Monitoring Station	24-hour TSP (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	No. of Exceedance	
	Range			Action	Limit
AM1	42.4 – 81.4	177.4	260.0	Nil	Nil
AM2	50.0 – 83.8	205.0	260.0	Nil	Nil

3. NOISE MONITORING

Monitoring Requirements

- 3.1 Noise levels at three designated monitoring stations were monitored in the month in accordance with the EM&A Manual. Appendix C shows the established Action and Limit Levels for the environmental monitoring works.
- 3.2 The monitoring schedule for the month is shown in Appendix D. Noise monitoring stations are shown in Figure 3.1.

Monitoring Equipment

- 3.3 Integrating Sound Level Meter was employed 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). Portable electronic wind speed indicator capable of measuring wind speed in m/s was employed to check the wind speed. Table 3.1 details the noise monitoring equipment used.

Table 3.1 Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Rion NL 18
Calibrator	Rion NC-73

Monitoring Parameters, Frequency and Duration

- 3.4 Table 3.2 summarised the monitoring parameters, period, frequency and duration of impact noise monitoring.

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

Time Period	Parameters	Duration (min)	Frequency
Daytime (0700 to 1900 on normal weekdays)	L_{eq}	30	Once per week

Monitoring Locations

- 3.3 In accordance with the EM&A Manual, three noise monitoring stations, as shown in Figure 3.1 were selected for noise monitoring. Table 3.3 describes the location of this monitoring station.

Table 3.3 Locations of Noise Monitoring Stations

Monitoring Station	Identity / Description
NMC1	Correctional Services Department Married Staff Quarters
NMC2	Seamen's Training Centre
NMC3	Customs & Excise Training School

Monitoring Methodology

Monitoring Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
- Façade measurements were made at all three monitoring locations.
- The battery condition was checked to ensure the correct functioning of the meter.

- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - frequency weighting: A
 - time weighting: Fast
 - time measurement: L_{eq} (30 minutes) during non-restricted hours i.e. between 07:00 and 19:00 on normal weekdays
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with a portable wind meter.
- During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.
- Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

Maintenance and Calibration

- The microphone head of the sound level meter and calibrator is cleaned with soft cloth at quarterly intervals.
- The meter and calibrator are sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- Calibration details for the sound level meter and calibrator are provided in Appendix E.

Results and Observations

- 3.4 Noise monitoring was conducted at all designated monitoring stations as scheduled in the month. Noise monitoring results and graphical presentations are provided in Appendix G.
- 3.5 All measured noise levels complied with the Action and Limit Levels in the month. A summary of noise monitoring results is presented in Table 3.4.

Table 3.4 Summary of Impact Noise Monitoring Results during 07:00 – 19:00 on Normal Weekdays

Monitoring Station	Measured Noise Level, dB(A)	Calculated Construction Noise Level, dB(A)	Limit Level	No. of Exceedance	
	L_{eq} (30 min)			Action*	Limit
	Average and Range	Average and Range			
NMC1	69.3 (68.5 – 70.0)	# (# - #)	75	Nil	Nil
NMC2	68.9 (68.5 – 69.7)	# (# - #)	70	Nil	Nil
NMC3	63.1 (63.0 – 63.2)	# (# - #)	70	Nil	Nil

* - Action Level is triggered by receipt of a noise complaint

- Measured noise level is less than the baseline noise level

4. WATER QUALITY

Monitoring Requirements

- 4.1 Marine water quality at five designated monitoring stations were monitored in the month in accordance with the EM&A Manual. Appendix C shows the established Action and Limit Levels for the environmental monitoring works.

4.2 The monitoring schedule is attached in Appendix D. Water quality monitoring stations are shown in Figure 4.1.

Monitoring Equipment

4.3 Table 4.1 summarised the equipment that were used in the dust-monitoring programme.

Table 4.1 Water Quality Monitoring Equipment

Equipment	Model and Make
DO and Temperature Meter, Salinity Meter and Turbidimeter	YSI Model 6820 CE-C-M-Y
Positioning Equipment	Magellan 5000
Water Depth Detector	Eagle cuda 168
Water Sampler	Kahlsico Water Sampler 2 L with messenger

Monitoring Parameters, Frequency and Duration

4.4 Table 4.2 summarised the monitoring parameters, frequency and duration of impact water quality monitoring.

Table 4.2 Water Quality Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter, unit	Frequency	No. of Depths
Control Stations: C1 & C2 Impact Stations: M1 – M3	Depth, m Temperature, °C Salinity, ppt DO, mg/L DO Saturation, % Turbidity, NTU SS, mg/L	Three times per week	Three (Surface, Mid-Depth and Bottom)

Monitoring Locations

4.5 In accordance with the EM&A Manual, five water quality monitoring stations, as shown in Figure 4.1 were selected for marine water quality sampling. The three impact stations were chosen on their proximity to the marine works, which would be under the greatest potential for water quality impacts. Two control stations were also set up for ebb and flood tide respectively for reference of the ambient water quality in the region. Table 4.3 describes the location of the water quality monitoring stations.

Table 4.3 Location of Water Quality Impact Stations

Station I.D.	HK 1980 Grid		Status
	Northing	Easting	
M1	824 284	819 649	Impact
M2	823 874	820 315	
M3	823 800	820 838	
C1	824 772	819 051	Control Station – Ebb Tide
C2	823 874	821 736	Control Station – Flood Tide

Monitoring Methodology

- 4.6 The following procedures were adopted for DO, temperature, salinity, turbidity and suspended solids measurement:

Instrumentation

- 4.7 The *in-situ* water quality parameters, viz. dissolved oxygen, temperature, salinity and turbidity were measured by a multi-parameter meter (*Model: YSI6820 CE-C-M-Y*).

Operating/Analytical Procedures

- 4.8 Given that all water monitoring stations had water depths over 6 m, all *in-situ* measurements and samplings were conducted at 3 water depths, namely 1 m below water surface, mid-depth and 1 m from seabed.
- 4.9 At each sampling depth, duplicate readings of dissolved oxygen content and turbidity were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference between the first and second readings of each set was more than 25% of the value of the first reading, a third measurement would be conducted to ensure data precision.
- 4.10 Water samples were collected by water samplers and stored in polyethylene bottles. Sampling bottles were pre-rinsed with the same water samples. The sample bottles were then packed into a cool-box kept at 4°C, and delivered to a HOKLAS accredited laboratory, *ALS Technichem (HK) Pty Ltd.*) for the analysis of suspended solids. For QA/QC, one duplicate sample from each batch of 20 samples was analysed as required by the HOKLAS. The QC results are summarized in Appendix I.

Maintenance and Calibration

- 4.11 Before each round of monitoring, the dissolved oxygen probe of YSI 6820 was calibrated by the wet bulb method.
- 4.12 The monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS before use and subsequently re-calibrated at 3-monthly intervals throughout all stages of the water quality monitoring.

Results and Observations

- 4.13 Water quality monitoring was conducted at all designated monitoring stations in the month. Water quality monitoring results and graphical presentations are provided in Appendix H.
- 4.14 For dissolved oxygen, twenty-seven exceedances were recorded in the month. For turbidity and suspended solids, all measured levels complied with the Action and Limit Levels in the month. Number of exceedances recorded in the month at each impact station are summarised in Table 4.4

Table 4.4 Summary of Water Quality Exceedances

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS		Total	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
M1	Action	2	3	1	2	0	0	0	0	3	5
	Limit	0	0	0	0	0	0	0	0	0	0
M2	Action	0	1	2	4	0	0	0	0	2	5
	Limit	0	0	0	0	0	0	0	0	0	0
M3	Action	1	2	4	5	0	0	0	0	5	7
	Limit	0	0	0	0	0	0	0	0	0	0
Total	Action	3	6	7	11	0	0	0	0	27	
	Limit	0	0	0	0	0	0	0	0	0	

Note: S = Surface, M = Mid-depth

- 4.15 Twenty-seven Action Level exceedances of dissolved oxygen were recorded in the month. Investigation showed that marine dredging activities were suspended since end of June and coincidence of changes in work methods was not observed.
- 4.16 The exceedances recorded in the month were concluded not due to construction works of the Project. No further mitigation is recommended.
- 4.17 The QC results for laboratory testing in the month were acceptable. QC results are provided in Appendix I.

5. ENVIRONMENTAL SITE INSPECTION

Site Inspections

- 5.1 Site inspection was carried out on a weekly basis to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In the month, four site inspections were carried out. The summary of weekly environmental site inspections observations and environmental site inspection checklists are attached in Appendix J.

Review of Environmental Monitoring Procedures

- 5.2 The monitoring works conducted by the Environmental Team were inspected regularly. Observations have been recorded for the monitoring works as follows:

Air Quality Monitoring

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

Noise Monitoring

- The monitoring team recorded the observations around the monitoring stations, which might affect the results.
- Major noise sources were identified and recorded.

Water Quality Monitoring

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

Advice on Waste Management Status

5.3 The actual quantities of uncontaminated sediment, contaminated sediment, inert C&D materials and C&D wastes generated by activities of the Project in the month are provided in Table 5.1. Trip ticket system was implemented for all offsite waste disposal.

Table 5.1 Summary of Waste Disposal in The Month

Type of Waste Material		Disposed Quantity	Destination
Uncontaminated sediments		Nil	Not Applicable
Contaminated sediments		Nil	Not Applicable
Inert C&D materials		120 m ³	Tuen Mun Area 38
Non-inert C&D waste	Metals	Nil	Not Applicable
	Paper/cardboard packaging	Nil	Not Applicable
	Plastics	Nil	Not Applicable
	Chemical waste	Nil	Not Applicable
	Others, e.g. general refuse	72 m ³	WENT Landfill

Status Environmental Licences and Permits

5.4 The status of all permits/licences obtained/in-use in the month is summarised in Appendix K.

Implementation Status of Environmental Mitigation Measures

5.5 An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix L.

5.6 During the weekly site inspection conducted by the Environmental Team in the month, the following observations and recommendations were made.

Resource Management

- No observations and recommendations were made during the weekly site inspections in the month.

Material Storage/Spillage/Leakage

- No observations and recommendations were made during the weekly site inspections in the month.

Waste Management

- Wooden waste material was accumulated at TTA3. The Contractor was reminded to remove them as soon as possible.
- Asphalt waste was accumulated at the site entrance. The Contractor was reminded to remove them as soon as possible.

Water Pollution

- No observations and recommendations were made during the weekly site inspections in the month.

Air Emissions

- Dust was observed generated at haul road by vehicle movement at Chainage 1980. The Contractor was reminded to provide water spray more frequently.

- The Contractor was reminded to repair the tarpaulin sheets at Grid No.2.

Noise/Vibration

- No observations and recommendations were made during the weekly site inspections in the month.

Abnormal/Emergency

- No observations and recommendations were made during the weekly site inspections in the month.

Miscellaneous

- Floating debris was observed along the coast at Chainage 1980 to 3000. The Contractor was reminded to remove them regularly. Floating debris along the coast was removed by end of the month.
- Stagnant water was observed at bus stop, TTA20, Grid No.3, 4, column forms, Pier 3, 5, 6, 7, and 8. The Contractor was reminded to remove them as soon as possible.
- Stagnant water was observed on I-beam and pile cap after rainstorm at Grid No.2. The Contractor was reminded to cover the I-beam with tarpaulin sheets and/or remove the stagnant water as soon as possible. Tarpaulin sheets were provided by the next weekly site inspection. Stagnant water was removed by end of the month.
- The Contractor was reminded to remove debris in viaduct construction area at Grid No.4 and existing u-channel at TTA3.
- The Contractor was reminded to remove the waste along the access to Grid No.2. Waste along the access to Grid No.2 were removed by the next weekly site inspection.
- General refuse was accumulated at TTA9. The Contractor was reminded to remove them more frequently. The general refuse was removed by the next weekly site inspection.
- The Contractor was reminded to maintain the tidiness at Pier 4.
- Accumulation of water in drip trays was observed at Portion B. The Contractor was reminded to remove them as soon as possible.
- The Contractor was reminded to cover or fill up the pockets of skirting at Pier 6 to 8 as soon as possible.

Summary of Exceedances of Environmental Quality Performance Limit

- 5.7 The Event and Action Plans for air quality, noise and water quality are presented in Appendix L.
- 5.8 No exceedance of Action and Limit Levels for 1-hour and 24-hour TSP, noise, turbidity and suspended solids levels was recorded in the month.
- 5.9 Twenty-seven Action Level exceedances of dissolved oxygen were recorded in the month. The exceedances were concluded not due to construction works of the Project. No further mitigation is recommended.

Summary of Environmental Complaints, Notifications of Summons and Successful Prosecutions

- 5.10 Figure 5.1 presents the environmental complaint flow diagram of the Project.
- 5.11 No environmental complaint, notification of summons and prosecution was received or made against the Project in the month.

6. FUTURE KEY ISSUES

Key Issues for Coming Month

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

- Generation of dust from activities on-site;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site; and
- Management of chemicals and avoidance of oil spillage;

Environmental Monitoring and Audit Schedule for the Coming Months

6.2 The tentative schedules for environmental monitoring and audit for the next three months are provided in Appendix D.

7. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 7.1 Environmental monitoring and audit was performed in July 2005. All monitoring and audit results in the month were checked and reviewed.
- 7.2 All 1-hour and 24-hour TSP monitoring results recorded in the month complied with the Action and Limit Levels.
- 7.3 All noise monitoring results recorded in the month complied with the Action and Limit Levels.
- 7.4 Twenty-seven Action Level exceedances of dissolved oxygen were recorded in the month. The exceedances were concluded not due to construction works of the Project. No further mitigation is recommended
- 7.5 All turbidity and suspended solids results recorded in the month complied with the Action and Limit Levels.
- 7.6 In general, the Contractor satisfactorily implemented all the required mitigation measure and was reasonably responsive to the ET's recommendations on any discrepancy observed during the weekly environmental site inspection.
- 7.7 No environmental complaint, notification summons or successful prosecution was received or made against this Project in the month.

Recommendations

- 7.8 According to results of weekly environmental site inspections performed in the month and the construction programme for the coming month, recommendations for air quality, construction noise, water quality and chemical and waste management are detailed in Section 6.1.