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**TEST REPORT**

**LEADER – WAI KEE (C&T) JOINT VENTURE**

**REMAINING ENGINEERING  
INFRASTRUCTURE WORKS FOR  
PAK SHEK KOK DEVELOPMENT  
PACKAGE 2A  
(CONTRACT NO.: TP 37/03)**

**MONTHLY EM&A REPORT**

**(MARCH 2006)**

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## **EXECUTIVE SUMMARY**

This monthly EM&A report (No.11) has been prepared to document the impact monitoring works conducted for the Contract of the Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No: TP 37/03) during the reporting period from 01 to 31 March 2006.

### **Construction Progress**

The major construction works in this reporting month were as below:

- Drainage works (Excavation, pipe laying and breaking) at Section 2 (Ma Liu Shui), 5 (Road L4), 6 (the proposed cycle track), 7 and 8 (Promenade) of the Works
- Installation of precast concrete planter units at Section 7 & 8 (Promenade) of the Works
- Installation of watermain at Section 5 (Road L4) of the Works
- Road works at Section 5 (Road L4) and 6 (the proposed cycle track) of the Works
- Construction of granite stone facing with concrete backing at the proposed return wall of the Public Landing Steps
- Piling works at the Pier of the proposed Ma Liu Shui Bridge (Alternative Design)
- Existing Box Culvert reinstatement and installation of the precast units for the proposed Outfall 1 at Landscape Node P1
- Preparation of base for reinstatement of existing twin pipe culvert at proposed Landscape Node P2
- Placing leveling stone and seawall block at the proposed Landscape Node P3
- Construction of Kerb planter wall and feature wall at the proposed Public Plaza at Section 7 of the Works

### **Environmental Monitoring Progress**

The summary of the monitoring activities in this monitoring month is listed below:

- Noise Monitoring (Day-time): 4 Occasion at 4 designated locations
- 24-hour TSP Monitoring: 5 Occasions at 3 designated locations
- 1-hour TSP Monitoring: 13 Occasions at 3 designated locations
- Weekly-site inspection: 5 Occasions

### **Noise Monitoring**

No exceedances of Action and Limit levels for noise monitoring were recorded in the reporting month.

### **Air Monitoring**

No exceedances of Action and Limit levels were recorded for 24-hr and 1-hr TSP monitoring in the reporting month.

### **Wastewater Monitoring**

During this reporting month, water quality monitoring was carried out at Ma Liu Shui Pier 1 on 21 March 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

### **Site Inspection**

Environmental site inspections conducted in this reporting month are presented as follows:

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
Weekly site inspection (ET)	04, 09, 16, 23, 30
Monthly site inspection (IEC/LWKJV/RE)	23

The observations were raised during this reporting month. The site inspection findings are presented as follows:

Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
1	Air	Follow up action to the finding of the previous month, stockpiles of filling materials at Works Area SA1 at Ma Liu Shui were covered during weekly site inspection (09/03/06).	No further action should be taken by LWKJV since the observation was improved.	No further verification should be taken by ET since the observation was improved.
2	Air	Follow up action to the finding of the previous month, silt / sand track observed on the public road near the site entrance at Works Area SA1 at Ma Liu Shui had been cleaned up during weekly site inspection (02/03/06).	No further action should be taken by LWKJV since the observation was improved.	No further verification should be taken by ET since the observation was improved.
3	Air	Black smoke was emitted from the Excavator at Node 3 during weekly site inspection (16/03/06).	LWKJV replied to repair the excavator immediately and maintain all site machines properly.	During the subsequent weekly site inspection (23/03/06), no black smoke was observed from the excavator. Hence, the finding was improved and no further action was required.
4	Air	Stockpiles of filling materials at Ma Liu Shui were partly covered during weekly site inspection (23/03/06).	LWKJV replied to provide water spraying to the stockpiles and cover them during the nighttime and holidays.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
5	Water	Silt curtain at Node 2 were found damaged during weekly site inspections (23/03/06).	LWKJV replied to repair the damaged part of the silt curtain immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
6	Water	Rain water was accumulated at SA1 during weekly site inspection (09/03/06).	LWKJV replied to drain out the rain water.	During the subsequent weekly site inspection (16/03/06), no rain water was accumulated at SA1. Hence, the finding was improved and no further action was required.
7	Chemical	Two oil containers were found without labels during weekly site inspection (23/03/06).	LWKJV replied to add appropriate labels to the oil containers.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
8	Site Practice	Rubbish and objectionable matter was found on water surface at Node 1 during weekly site inspection (02/03/06).	LWKJV replied to provide more manpower to collect the rubbish and objectionable mater on water surface.	During the subsequent weekly site inspection (09/03/06), no rubbish or other objectionable matter was found on water surface. As a result, the finding was improved and no further action was required.

### Waste Management

According to weekly site inspection, ET found that the Contractor followed the recommended procedures stipulated in the Waste Management Plan (WMP) on handling and disposal of wastes. 5040m<sup>3</sup> inert C&D materials, 10kg metals, 80kg paper/cardboard packaging, 2kg plastics and 26620kg general refuse were generated. All inert C&D materials were reused in the Contract and other wastes were handling under the instruction and procedure stated in the WMP in this reporting month.

### Environmental Complaints

No environmental complaints were received in this monitoring month.

### Notification of summons and successful prosecutions

No notification of summons and prosecutions with respect to environmental issues were registered in this reporting month.

### Future Key Issues

Base on the site inspections and forecast of engineering works in the coming month, key issues to be considered are as follows:

- Noise and air quality impact due to construction works;
- Maintain wheel washing facilities properly;
- Cleanup the access road regularly;
- Watering, hydro-seeding or covering all stockpiles with tarpaulin to avoid wind and water erosion;
- Diverting the silty runoff to sedimentation trap or sedimentation tanks;
- Use and maintenance of silt curtain properly during marine works;
- Maintain good site practice and waste management to minimize environmental impacts at the site;
- Follow-up improvements on waste management issues.

## 1.0 INTRODUCTION

Leader – Wai Kee (C&T) Joint Venture (LWKJV) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No.: TP 37/03).

In accordance with the Section 10 of Environmental Permit to Construct and Operate a Designate Project (EP-108/2001/AEP-108/2001), EM&A programme as set out in the EM&A Manual is required to be implemented. In accordance with the EM&A manual, environmental monitoring of air quality and noise is required for the Project. The EM&A requirement for each parameter are described in details in subsequent 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 report;
- Environmental requirements in contract documents.

This monthly EM&A report summarizes the impact monitoring results and audit findings of the EM&A program during the reporting period from 01 to 31 March 2006.

## 2.0 PROJECT INFORMATION

### 2.1 Background

Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No.: TP 37/03) was planned and designed by the Civil Engineering and Development Department (CEDD).

As the main Contractor of the captioned project: contracted by, LWKJV will follow the environmental monitoring recommendation stated at the EM&A Manual that was prepared with reference to the EIA Study for Feasibility Study on the Pak Shek Kok Development Area (PSKDA) Environmental Monitoring and Audit Manual under Agreement No. CE 90/96.

### 2.2 Site Description

Generally, the construction site is located at Pak Shek Kok development area. Surrounding the construction site, there are two air sensitive receivers: HKIB Staff Accommodation and Cheung Shue Tan Village and three noise sensitive receivers: HKIB Staff Accommodation, CUHK Residence No.10 and Cheung Shue Tan Village.

Figure 1and 2 show the noise and air monitoring locations of this project.

### 2.3 Construction Programme

Details of construction programme are shown in Appendix F.

### 2.4 Project Organization and Management Structure

The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in Appendix A.

### 2.5 Contact Details of Key Personnel

The key personnel contact names and telephone numbers, and construction programme are shown in table 2.1.

Table 2.1 Contact Details of Key Personnel

Organization	Project Role	Name of Key Staff	Tel. No.	Fax No.
CEDD	Mr. M. S. Lam	Employer	2158 5630	2693 2918
Hyder	Mr. Herman Fong	Engineer	2603 6638	2603 7883
LWJV	Mr. T. T. Wong	Project Manager	2442 1123	2442 9733
Hyder	Ir. Coleman Ng	Independent Environmental Checker	2911 2233	2805 5028
ETL	Mr. C.L. Lau	Environmental Team Leader	2946 7791	2695 3944

### 3.0 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH

The site area of this project is shown in Appendix G.

A summary of the major construction activities undertaken in this monitoring month is shown in Table 3.1. The implementation of corresponding mitigation measures is summarized in Table 3.2.

Table 3.1 Major Construction Activities in this reporting month

Major Construction Activity	Location
Drainage Works (Excavation, pipe laying and breaking)	Section 2 (Ma Liu Shui), 5 (Road L4), 6 (the proposed cycle track), 7 and 8 (Promenade) of the Works
Installation of precast concrete planter units	Section 7 & 8 (Promenade) of the Works
Installation of watermain	Section 5 (Road L4) of the Works
Road Works	Section 5 (Road L4) and 6 (the proposed cycle track) of the Works
Construction of granite stone facing with concrete backing	Proposed return wall of the Public Landing Steps
Piling works	Pier of the proposed Ma Liu Shui Bridge (Alternative Design)
Existing Box Culvert reinstatement and installation of the precast units for the proposed Outfall 1	Landscape Node P1
Preparation of base for reinstatement of existing twin pipe culvert	Proposed Landscape Node P2
Placing leveling stone and seawalk block	Proposed Landscape Node P3
Construction of Kerb planter wall and feature wall	Proposed Public Plaza at Section 7 of the Works

Table 3.2 Implementation of Environmental Mitigation Measures

General construction works	<ul style="list-style-type: none"> <li>• Effective water sprays used on the site at potential dust emission sources such as haul roads and unpaved areas;</li> <li>• The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading;</li> <li>• Minimize of exposed soil areas to reduce the potential for increased siltation and contamination of run-off;</li> <li>• Water, hydro-seed or cover the open stockpile and exposed loose soil areas by using clean tarpaulin sheets;</li> <li>• Provide proper and efficient drainage facilities (e.g. wheel washing facilities) and sedimentation system to ensure that site runoff should be treated before discharged to drains;</li> <li>• Remove the sand/rubbish accumulated in the drain/channel regularly;</li> <li>• Use and maintenance of silt curtain properly during marine works;</li> <li>• Provide good site practice (e.g. selection of quieter plant and working methods and reduction in number of plant operating in critical areas close to NSRs) to limit noise emissions at source;</li> <li>• Remove the construction waste accumulated inside or outside the site regularly.</li> </ul>
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## 4.0 AIR QUALITY MONITORING

### 4.1 Monitoring Requirement

1-hour and 24-hour TSP monitoring were required to be conducted to monitor the air quality, at designated monitoring locations:

- HKIB Staff Accommodation (on ground floor near the entrance facing south-east);
- Cheung Shue Tan Village (near the outer building, temple) for 1-hr TSP monitoring;
- Cheung Shue Tan Village (in front of Man Kee Store) for 24-hr TSP monitoring;
- Near Wen Chih Tang at the CUHK.

### 4.2 Monitoring Equipment

Continuous 24-hour TSP air quality monitoring was performed using a GMWS2310 High Volume Air Sampler (HVS) located at each of the designated monitoring station. One portable dust meter was used to carry out the 1-hour TSP monitoring. Table 4.1 summarizes the equipment used in the air quality monitoring programme. A copy of the calibration certificates for the HVS and portable dust meter are attached in Appendix B1.

Table 4.1 Air Quality Monitoring Equipment

Equipment	Model and Make
HVS	Greasby GMWS2310
Calibrator	Tisch TE-5025A
1-hour TSP Dust Meter	TSI Model 8520 Dust Trak™ Aerosol Monitor

### 4.3 Monitoring Parameters, Frequency and Duration

Table 4.2 summarizes the monitoring parameters, monitoring duration and frequencies of air quality monitoring.

Table 4.2 Monitoring parameters, duration, frequencies of impact air quality monitoring

Parameter	Duration	Frequency
24-hr TSP	24 hr (0000-2400)	Once every six days
1-hr TSP	1 hr (0700-1900)	Three times every six days

### 4.4 Monitoring Locations and Schedule

Table 4.3 tabulates the air quality monitoring locations of this project.

Table 4.3 Air quality monitoring locations

Monitoring stations	Locations
AM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east) for 1-hr TSP monitoring
AM3	Cheung Shue Tan Village (near the outer building, temple) for 1-hr TSP monitoring
AM3A	Cheung Shue Tan (in front of Man Kee Store) for 24-hr TSP monitoring
AM5	Near Wen Chih Tang at the CUHK

The air quality monitoring schedule for 24-hr and 1-hr TSP monitoring at designated monitoring locations is summarized in table 4.4.

Table 4.4 Monitoring Schedule for the air quality monitoring stations

Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP		1-hr TSP		Date	Start	Finish
		Start Date	Time	Finish Date	Time			
AM1	HKIB Staff Accommodation					02/03/06	09:45	10:45
						04/03/06	08:30	09:30
						07/03/06	08:30	09:30
						09/03/06	13:00	14:00
						11/03/06	08:30	09:30
						14/03/06	15:30	16:30
						16/03/06	08:15	09:15
						18/03/06	10:20	11:20
						21/03/06	09:50	10:50
						23/03/06	08:50	09:50
						25/03/06	08:30	09:30
						28/03/06	13:30	14:30
						30/03/06	08:55	09:55
AM3	Cheung Shue Tan Village (Near the outer building, temple)					02/03/06	13:00	14:00
						04/03/06	13:00	14:00
						07/03/06	13:08	14:08
						09/03/06	14:15	15:15
						11/03/06	13:00	14:00
						14/03/06	09:10	10:10
						16/03/06	14:50	15:50
						18/03/06	17:30	18:30
						21/03/06	13:00	14:00
						23/03/06	10:05	11:05
						25/03/06	13:00	14:00
						28/03/06	08:50	09:50
						30/03/06	10:15	11:15
AM5	Near Wen Chih Tang at the CUHK					02/03/06	16:00	17:00
						04/03/06	14:20	15:20
						07/03/06	14:33	15:33
						09/03/06	15:30	16:30
						11/03/06	14:50	15:50
						14/03/06	10:30	11:30
						16/03/06	10:40	11:40
						18/03/06	16:15	17:15
						21/03/06	14:20	15:20
						23/03/06	11:15	12:15
						25/03/06	15:40	16:40
						28/03/06	10:10	11:10
						30/03/06	14:40	15:40
AM1	HKIB Staff Accommodation	03/03/06	13:15	04/03/06	13:11			
		09/03/06	13:05	10/03/06	13:27			
		15/03/06	09:50	16/03/06	10:07			
		21/03/06	09:54	22/03/06	09:55			
		27/03/06	09:28	28/03/06	09:07			
AM3A	Cheung Shue Tan (in front of Man Kee Store)	03/03/06	13:50	04/03/06	13:53			
		09/03/06	14:20	10/03/06	15:04			
		15/03/06	08:50	16/03/06	09:07			
		21/03/06	13:07	22/03/06	13:34			
		27/03/06	09:00	28/03/06	09:51			
AM5	Near Wen Chih Tang at the CUHK	03/03/06	13:30	04/03/06	13:37			
		09/03/06	15:30	10/03/06	15:48			
		15/03/06	09:18	16/03/06	09:46			
		21/03/06	14:20	22/03/06	14:31			
		27/03/06	08:43	28/03/06	08:58			

#### 4.5 Monitoring Methodology

##### 4.5.1 24-hour TSP Monitoring

###### Instrumentation

High volume sampler, as HVS, (Greasby GMWS2310) complete with appropriate sampling inlets are employed for 24-hour TSP. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

###### Installation

The installation of HVS refers to the requirement stated in EM&A Manual.

###### Operation/Analytical Procedures

Operating/analytical procedures for the operation of HVS are as below:

Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m<sup>3</sup>/min and 1.7m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

- For TSP sampling, fiberglass filters (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling period of 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recorded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of 25°C ± 3°C and the relative humidity (RH) <50% ±5%.

###### Maintenance & Calibration

- The HVS and their accessories should be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVS should be calibrated at bi-monthly intervals.

##### 4.5.2 1-hour TSP Monitoring

###### Measuring Procedures

The measuring procedures of the 1-hr dust meter are in accordance with the Manufacturer's instruction Manual as follows:

- Set POWER to ON, check the battery indicator to ensure whether the power supply is enough to conduct the TSP monitoring;
- Calibrate the dust meter by zero check;
- Set the TIME CONSTANT of the dust meter;
- Press SAMPLE to start the TSP monitoring;

- Record the maximum, minimum and average reading directly from the dust meter by press STATISTICS when monitoring complete.

#### Maintenance & Calibration

- 1-hr dust meter should be checked at 3-month intervals and calibrated at 1-year intervals throughout all stages of impact air quality monitoring.

#### 4.5.3 Wind Data Monitoring

Wind data (wind speed and wind direction) were directly extracted from Sha Tin Station (located at Sha Tin Race Course) of Hong Kong Observatory. All wind data during this reporting month are shown in Appendix D.

#### 4.6 Action and Limit Levels

Action and Limit levels for 24-hr TSP and 1-hr TSP derived as illustrated in Table 4.5.

Table 4.5 Action and Limit Levels for 24-hr TSP and 1-hr TSP

Monitoring Location	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	
	Action Level	Limit Level	Action Level	Limit Level
AM1	164 *	260 *	325 *	500 *
AM3	---	---	306 **	500 **
AM3A	183 **	260 **	---	---
AM5	174	260	329	500

\* = Reference to the information contained in the Baseline Monitoring Report submitted under the "Advance Engineering Infrastructure Works for Pak Shek Kok Development – Southern Access Road and Sewage Pumping Station No.3.

\*\* = Reference to the information contained in the Baseline Monitoring Report submitted under the "Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1 – Contract No. TP 35/02.

#### 4.7 Event-Action Plans

Please refer to Appendix E for details.

#### 4.8 Results

##### 4.8.1 24-hour TSP Monitoring

All monitoring data of 24-hour TSP monitoring is provided in Appendix B2. Graphical presentation of 24-hour TSP monitoring results for the reporting month is shown in Appendix B3.

No exceedances of Action and Limit Level of 24-hour TSP monitoring results were recorded during the reporting month.

##### 4.8.2 1-hour TSP Monitoring

1-hour TSP monitoring was carried out at monitoring stations, AM1 and AM3 in the reporting month. All monitoring data of 1-hour TSP monitoring is provided in Appendix B2. Graphical presentation of 1-hour TSP monitoring results for the reporting month is shown in Appendix B3.

No exceedances of Action and Limit Level of 1-hour TSP monitoring results were recorded during the reporting month.

## 5.0 Noise Monitoring

### 5.1 Monitoring Requirements

As the requirement in EM&A Manual, noise monitoring was conducted at designated monitoring locations:

- HKIB Staff Accommodation (on ground floor near the entrance facing south-east);
- Cheung Shue Tan Village (near the outer building, temple);
- CUHK Residence No.10;
- Near Wen Chih Tang at the CUHK.

### 5.2 Monitoring Equipment

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 reading including equivalent continuous sound pressure level ( $L_{eq}$ ) and percentile sound pressure level ( $L_x$ ). They comply with International Electro technical Commission Publications 651:1979 (Type1) and 804:1985 (Type1), and speed in m/s was used to monitor the wind speed.

Table 5.1 summarized noise monitoring equipment model being used. A copy of the calibration certificates for noise meters and calibrator are attached in Appendix C1.

Table 5.1 Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Rion NL-31 Sound Level Meter
Calibrator	Rion NL-73 Sound Level Calibrator
Portable Wind Speed Indicator	TSI Model 8340-M Air Velocity Meter

### 5.3 Monitoring Parameters, duration and Frequency

Noise monitoring for the A-weighted levels  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded. The following guide on the regular monitoring frequency for each monitoring station on a per week basis when noise generating activities are underway:

- One set of measurements between 0700-1900 hours on normal weekdays (6 consecutive  $L_{eq(5-min)}$ );
- One set of measurements between 1900-2300 hours (3 consecutive  $L_{eq(5-min)}$ )\*;
- One set of measurements between 2300-0700 hours of next day (3 consecutive  $L_{eq(5-min)}$ )\*;
- One set of measurements between 0700-1900 hours on holidays (3 consecutive  $L_{eq(5-min)}$ )\*.

(\*): Noise monitoring to be conducted only when there is construction work.

Duration, frequencies and parameters of noise measurement are presented in Table 5.2.

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

Time period	Duration/min	Parameters	Frequency
Day-time: 0700-1900 hrs on normal weekday	30	$L_{eq}$ $L_{10}$ $L_{90}$	Once per week
Evening-time: 1900-2300 hrs	15	$L_{eq}$ $L_{10}$ $L_{90}$	Once per week
Night-time: 2300-0700 hrs of next day	15	$L_{eq}$ $L_{10}$ $L_{90}$	Once per week
Holiday: 0700-1900 hrs	15	$L_{eq}$ $L_{10}$ $L_{90}$	Once per week

### 5.4 Monitoring Locations and Period

In this reporting month, there were four noise monitoring locations: HKIB Staff Accommodation, Cheung Shue Tan Village, CUHK Residence No.10 and Near Wen Chih Tang at the CUHK. The location of the monitoring stations are described in Table 5.3 and depicted in Figure 1.

Table 5.3 Noise Monitoring Locations

Noise Monitoring station	Location
NM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east)
NM2	CUHK Residence No.10
NM3	Cheung Shue Tan Village (near the outer building, a temple)
NM8	Near Wen Chih Tang at the CUHK

The noise-monitoring programme of monitoring locations (Day-time, Evening-time, Holiday and Night-time) is summarized in Table 5.4.

Table 5.4 Monitoring Periods for noise monitoring stations

Monitoring stations	Monitoring Period						
	Day-time		Evening-time		Holiday		Night-time
NM1	07/03/06	08:32	---	---	---	---	---
	14/03/06	15:35	---	---	---	---	---
	21/03/06	09:52	---	---	---	---	---
	28/03/06	13:35	---	---	---	---	---
NM2	07/03/06	15:30	---	---	---	---	---
	14/03/06	14:30	---	---	---	---	---
	21/03/06	14:30	---	---	---	---	---
	28/03/06	14:20	---	---	---	---	---
NM3	07/03/06	13:10	---	---	---	---	---
	14/03/06	09:15	---	---	---	---	---
	21/03/06	13:02	---	---	---	---	---
	28/03/06	08:55	---	---	---	---	---
NM8	07/03/06	14:35	---	---	---	---	---
	14/03/06	10:35	---	---	---	---	---
	21/03/06	14:22	---	---	---	---	---
	28/03/06	10:14	---	---	---	---	---

## 5.5 Monitoring Procedures and Calibration Details

### Operation/Analysis Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- 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 : 5 mins
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1dB(A), the measurement would be considered invalid and repeat 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 Leq, L10 and L90 were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Free Field correction to the measurements should be made. Correction factor of +3dB(A) should be made to the free Field measurements.
- Noise monitoring would be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

#### Maintenance and Calibration

- The microphone head of the sound level meter and calibrator is cleaned with soft cloth at quarterly intervals.
- The meter is sent to be supplier or HOKLAS laboratory to check and calibrated at yearly intervals.

### 5.6 Action and Limit Levels

The Action and Limit levels for noise levels derived as illustrated in Table 5.5.

Table 5.5 Action and Limit Levels for noise monitoring

Time Period	Time Period	Action	Limit
Normal hours	0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) *
Holiday	0700-1900 hrs on holidays		70 dB(A) **
Evening-time	1900-2300 hrs on all other days		
Night-time	2300-0700 hrs of next day		55 dB(A) **

\* = Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

\*\* = Area Sensitivity Rating (ASR) C is selected from the "Technical Memorandum on Noise from Construction Work Other Than Percussive Piling".

### 5.7 Event-Action Plans

Please refer to the Appendix E for details.

### 5.8 Results

Only Day-time noise monitoring were carried out at monitoring stations in this reporting month. No Evening-time, Night-time and Holiday noise monitoring were required since no construction works were processed during the night-time period. All noise levels are provided in Appendix C2. Graphical presentation of the monitoring results for the reporting month is shown in Appendix C3.

No Day-time noise monitoring results at all monitoring stations exceeded the Action Level since no documented complaints on noise issue were received in this reporting month. Besides, no exceedances in Limit Level were recorded according to the results from Day-time noise monitoring.

## 6.0 WASTEWATER MONITORING

Effluent Discharge License of this Project is valid from 06 December 2004 (Discharge Licence No.: 3246-Part A and Part B).

During this reporting month, water quality monitoring was carried out at Ma Liu Shui Pier 1 on 21 March 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

## 7.0 ENVIRONMENTAL NON-CONFORMANCE

### 7.1 Summary of environmental monitoring

No exceedances of Action and Limit Level of 24-hour and 1-hour TSP monitoring results were recorded during the reporting month.

No day-time noise level measured at all monitoring stations exceeded the Action and Limit Level in the reporting month. No evening-time, night-time and holiday noise monitoring were required since no construction works were processed during these periods.

During this reporting month, water quality monitoring was carried out at Ma Liu Shui Pier 1 on 21 March 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

## 7.2 Summary of Environmental Complaints

No environmental complaints were received in this monitoring month.

## 7.3 Summary of Notification of Summons and Prosecution

There was no notification of summons respect to environmental issues registered in this month.

## 8.0 SITE INSPECTION

Weekly site inspections were carried out by the ET in this reporting month (04, 09, 16, 23 and 30 March 2006). Monthly joint site inspection at 23 March 2006 was carried out by Engineer's Representative, IEC and LWKJV. The implementation status of the mitigation measures on site inspections in this reporting month is presented in Appendix H.

## 8.1 Summary of the site inspection findings and Action(s) taken by LWKJV and ET

Summaries of the site inspection findings in this reporting month are shown in Table 8.1.

Table 8.1 The summary of the site inspection findings and Action(s) taken by LWKJV and ET

Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
1	Air	Follow up action to the finding of the previous month, stockpiles of filling materials at Works Area SA1 at Ma Liu Shui were covered during weekly site inspection (09/03/06).	No further action should be taken by LWKJV since the observation was improved.	No further verification should be taken by ET since the observation was improved.
2	Air	Follow up action to the finding of the previous month, silt / sand track observed on the public road near the site entrance at Works Area SA1 at Ma Liu Shui had been cleaned up during weekly site inspection (02/03/06).	No further action should be taken by LWKJV since the observation was improved.	No further verification should be taken by ET since the observation was improved.
3	Air	Black smoke was emitted from the Excavator at Node 3 during weekly site inspection (16/03/06).	LWKJV replied to repair the excavator immediately and maintain all site machines properly.	During the subsequent weekly site inspection (23/03/06), no black smoke was observed from the excavator. Hence, the finding was improved and no further action was required.
4	Air	Stockpiles of filling materials at Ma Liu Shui were partly covered during weekly site inspection (23/03/06).	LWKJV replied to provide water spraying to the stockpiles and cover them during the nighttime and holidays.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
5	Water	Silt curtain at Node 2 were found damaged during weekly site inspections (23/03/06).	LWKJV replied to repair the damaged part of the silt curtain immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
6	Water	Rain water was accumulated at SA1 during weekly site inspection (09/03/06).	LWKJV replied to drain out the rain water.	During the subsequent weekly site inspection (16/03/06), no rain water was accumulated at SA1. Hence, the finding was improved and no further action was required.
7	Chemical	Two oil containers were found without labels during weekly site inspection (23/03/06).	LWKJV replied to add appropriate labels to the oil containers.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.

Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
8	Site Practice	Rubbish and objectionable matter was found on water surface at Node 1 during weekly site inspection (02/03/06).	LWKJV replied to provide more manpower to collect the rubbish and objectionable matter on water surface.	During the subsequent weekly site inspection (09/03/06), no rubbish or other objectionable matter was found on water surface. As a result, the finding was improved and no further action was required.

## 8.2 Status of Environmental Licensing and Permitting

All permits/licenses valid in this reporting month are summarized in Table 8.2.

Table 8.2 Summary of environmental licensing and permit status

Description	Permit No.	Valid Period		Section
		From	To	
Construction Noise Permit for the use of Powered Mechanical Equipment for the Purpose of carrying out Construction Work other than Percussive Piling and/or the carrying out of prescribed Construction Work	GW-RN0565-05	30/11/05	29/05/06	<u>Group A</u> One Poker, vibrator, hand-held (CNP170) One Concrete pump, lorry mounted (CNP047) One Concrete lorry mixer (CNP044) <u>Group B</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081) <u>Group C</u> One Grout Pump One Grout Mixer <u>Group D</u> Two Air compressor, with noise emission label & Sound Power Level $\leq$ 102dB(A) One Piling rig <u>Group E</u> One Crane, mobile (diesel) (CNP048)
Construction Noise Permit for the use of Powered Mechanical Equipment for the Purpose of carrying out Construction Work other than Percussive Piling and/or the carrying out of prescribed Construction Work	GW-RN0587-05	12/12/05	11/06/06	<u>Group A</u> One Derrick Barge (CNP061) One Excavator, tracked (CNP081) One Tug Boat (CNP221) One Generator, standard (CNP101) Four Dump truck, 5.5 tonne $<$ gross vehicle weight $\leq$ 38 tonne <u>Group B</u> One Derrick Barge (CNP061) One Tug boat (CNP221) One Generator, standard (CNP101)
Construction Noise Permit for the use of Powered Mechanical Equipment for the Purpose of carrying out Construction Work other than Percussive Piling and/or the carrying out of prescribed Construction Work	GW-RN0566-05	14/12/05	13/06/06	<u>Group A</u> One Tug Boat (CNP221) <u>Group B</u> Three Derrick Barge (CNP061)
Construction Noise Permit for the Construction Works of the Project at Pak Shek Kok Development Package 2A, Tai Po	GW-RN0006-06	26/01/06	25/07/06	<u>Group A</u> Two Poker, vibratory, hand-held (CNP170) Two Concrete lorry mixer (CNP044) One Excavator, tracked (CNP081) <u>Group B</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081) <u>Group C</u> One Asphalt Paver (CNP004) One Roller, Vibratory (CNP186) One Road Roller (CNP185) One Dump Truck (CNP067) <u>Group D</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081) One Crane, mobile (diesel) (CNP048) One Lorry with crane

Description	Permit No.	Valid Period		Section
		From	To	
Wastewater Discharge License	3246 – Part A	06/12/04	05/12/09	Discharge of trade Effluent, surface run-off and all other wastewater arising from the construction site and sedimentation tank to Coastal water or communal drain for the carriage of surface drainage water.
Wastewater Discharge License	3246 – Part B	06/12/04	05/12/09	Discharge of trade Effluent, surface run-off and all other wastewater arising from the construction site and on-site aerobic waste water treatment system to soak-away pit.

### 8.3 Recommendations on site inspection findings in Site Inspections of this month

Based on the site inspection findings, the recommendations are as below:

- All stockpiles should be covered with clean tarpaulin sheets, spraying with water or hydro-seeding to avoid wind and water erosion;
- The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading;
- Minimize of exposed soil areas to reduce the potential for increased siltation and contamination of run-off;
- Checking and maintaining all the site machines to prevent dust emission;
- Providing briefing to the concerned site staff on remedial actions, such as handling method of chemicals and chemical waste;
- Use and maintenance of silt curtain properly during marine works;
- Provide good site practice (e.g. selection of quieter plant and working methods and reduction in number of plant operating in critical areas close to NSRs) to limit noise emissions at source;
- Maintain good waste management at the site.

## 9.0 WASTE MANAGEMENT

### 9.1 Waste Management Audit

Waste management audit was carried out by the ET on a weekly basis. The implementation status of the mitigation measures on waste management in this reporting month is presented in Appendix H.

### 9.2 Records of Waste Quantities

All type of wastes arising from the construction work are classified into the following:

- General refuse;
- Chemical waste;
- Construction & demolition (C&D) material.

The quantities of waste for disposal in this month are summarized in Table 9.1.

Table 9.1 Summary of Quantities of Waste for Disposal in this reporting month

Type of Waste		Quantity	Disposal Location	Cumulative Quantity
Inert C&D Materials	Total Quantity Generated (m <sup>3</sup> )	5040	Reused in the Contract	104825
	Broken Concrete (m <sup>3</sup> )	40	N/A	825
	Reused in the Contract (m <sup>3</sup> )	5000	N/A	104000
	Reused in other Projects (m <sup>3</sup> )	0	N/A	0
	Disposal as Public Fill (m <sup>3</sup> )	0	N/A	0
C&D Waste	Metals (1000kg)	0.010	N/A	37.40
	Paper/Cardboard Packaging (1000kg)	0.080	N/A	0.246
	Plastics (1000kg)	0.002	N/A	0.030
	Chemical Waste (1000kg)	0.000	N/A	1.000
	Other, e.g. General Refuse (1000kg)	26.62	SENT	126.15

## 10.0 IMPLEMENTATION STATUS

### 10.1 Implementation Status of Environmental Mitigation Measures

LWKJV has been implementing the required environmental mitigation measures according to the Mitigation Protection Measures stated in Implementation Schedule of the EM&A Manual. The implementation status of the environmental mitigation measures in this reporting month is presented in Appendix H.

#### Air Quality

The Contractor was reminded to water or cover all the stockpiles by using clean tarpaulin sheets. The Contractor was also reminded to cleanup the access road regularly to avoid dust emission and provide effective wheel washing facilities.

#### Noise

All mitigation measures stated in Appendix H were implemented properly in this reporting month.

#### Water Quality

The Contractor was reminded to provide more effort to implement mitigation measures, such as diverting site runoff to suitable treatment processes before discharge, sedimentation system and drainage facilities.

#### Waste Management

LWKJV has been implementing most mitigation measures on waste management.

### 10.2 Implementation Status of Event and Action Plan

There were no exceedances in air quality and noise monitoring parameters recorded in this monitoring month. No further mitigation measures were required.

### 10.3 Implementation Status of Environmental Complaint Handling

No complaints had been received during this monitoring month.

## 11.0 CONCLUSION

Impact monitoring of air quality and noise were carried out at designated locations in accordance with the EM&A Manual in this reporting month.

According to the summary of air and noise monitoring results, no exceedances of Action and Limit Level of 24-hour and 1-hour TSP monitoring results were recorded during the reporting month. Besides, No Day-time noise level measured at all monitoring stations exceeded the Action and Limit Level in the reporting month. No Evening-time, Night-time and Holiday noise monitoring were required since no construction works were processed during these periods.

During this reporting month, water quality monitoring was carried out at Ma Liu Shui Pier 1 on 21 March 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

According to the ET weekly site inspection and IEC monthly site audit carried out this month, it indicated that site practices of the LWKJV were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory.

## 12.0 FUTURE KEY ISSUES

### 12.1 Upcoming EM&A Schedule in coming two months

The Proposed EM&A program in coming two months are presented as following table:

Table 12.1 Upcoming EM&A Schedule in coming two months

Type of Monitoring	April 2006	May 2006
Noise Monitoring (Day-time)	04, 11, 18, 25	02, 09, 16, 23, 30
1-hour TSP	01, 04, 06, 08, 11, 12, 13, 18, 20, 22, 25, 27, 29	02, 04, 06, 09, 11, 13, 16, 18, 20, 23, 25, 27, 30
24-hour TSP	01, 07, 13, 19, 25	02, 08, 13, 19, 25, 30
Site Inspection	06, 13, 20, 27	04, 11, 18, 25

### 12.2 Upcoming construction works schedule in the coming month

The major construction works planned to be carried out in next two months and their possible impact is tabulated (Table 12.2) for reference.

Table 12.2 Construction Plan in the coming month

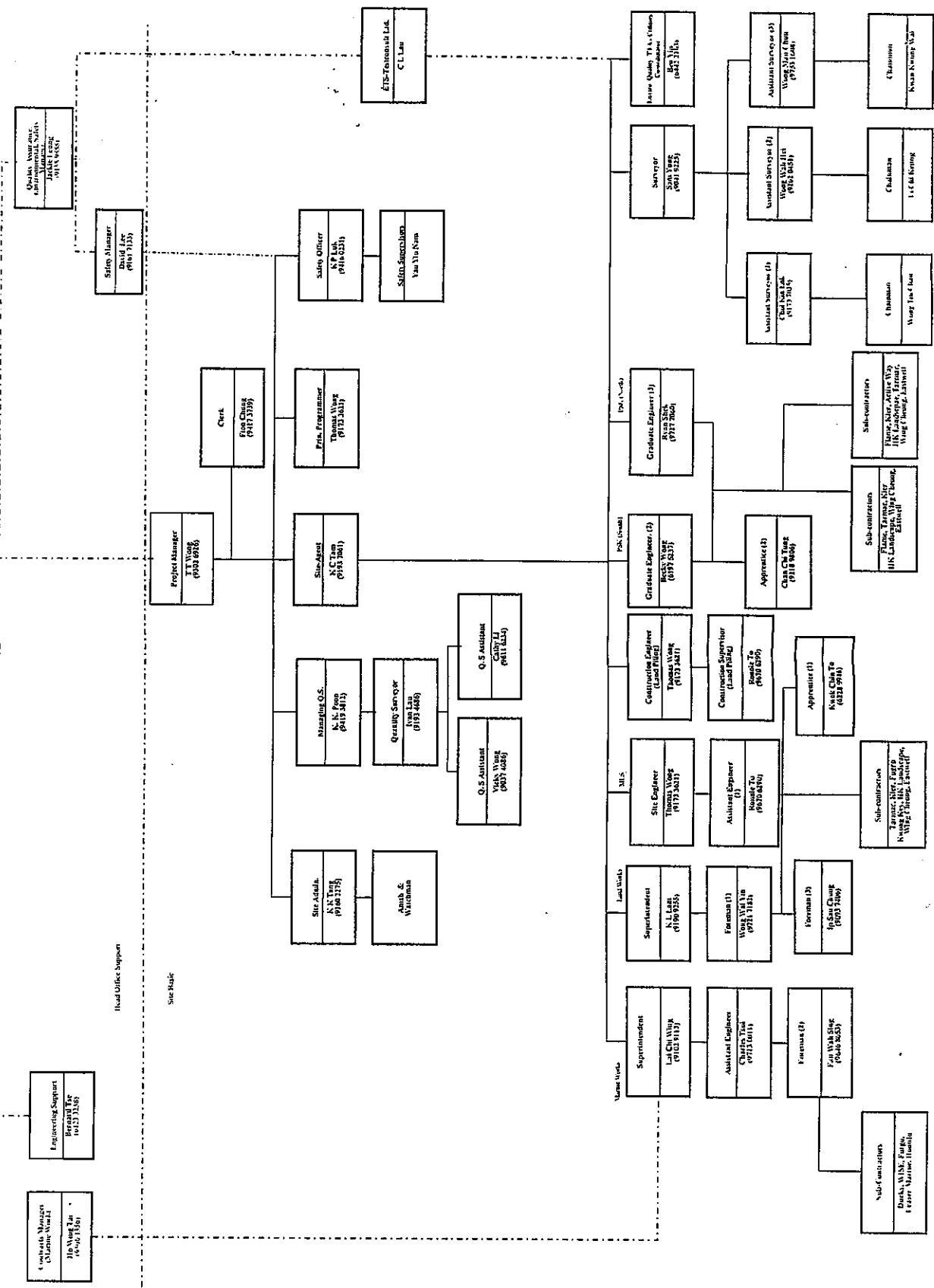
Month	Works Planned to be Carried Out
Between April and May 2006	<ul style="list-style-type: none"> <li>▪ Drainage Works (excavation, pipe laying and breaking) at Section 1 and 2 (Ma Liu Shui), 7 and 8 (Promenade) of the Works;</li> <li>▪ Pile testing and excavation of Voided Abutment of the proposed Ma Liu Shui Bridge (Alternative Design), excavation of Subway and removal of preloading mound of the North Abutment Wall;</li> <li>▪ Installation of precast concrete planter and parapet wall units along the proposed Promenade;</li> <li>▪ Utility works at Section 5 of the Works;</li> <li>▪ Construction of concrete backing at the proposed PLS;</li> <li>▪ Construction of bus-bay at Section 10 of the Works;</li> <li>▪ Construction of in-situ Outfall 2 and 3 at the proposed Landscape Node P2;</li> <li>▪ Construction of parapet wall, kerb planter wall and feature wall at the Public Plaza at Section 7 of the Works;</li> <li>▪ Roadworks at Section 5 &amp; 6 of the Works.</li> </ul>

## Appendix A

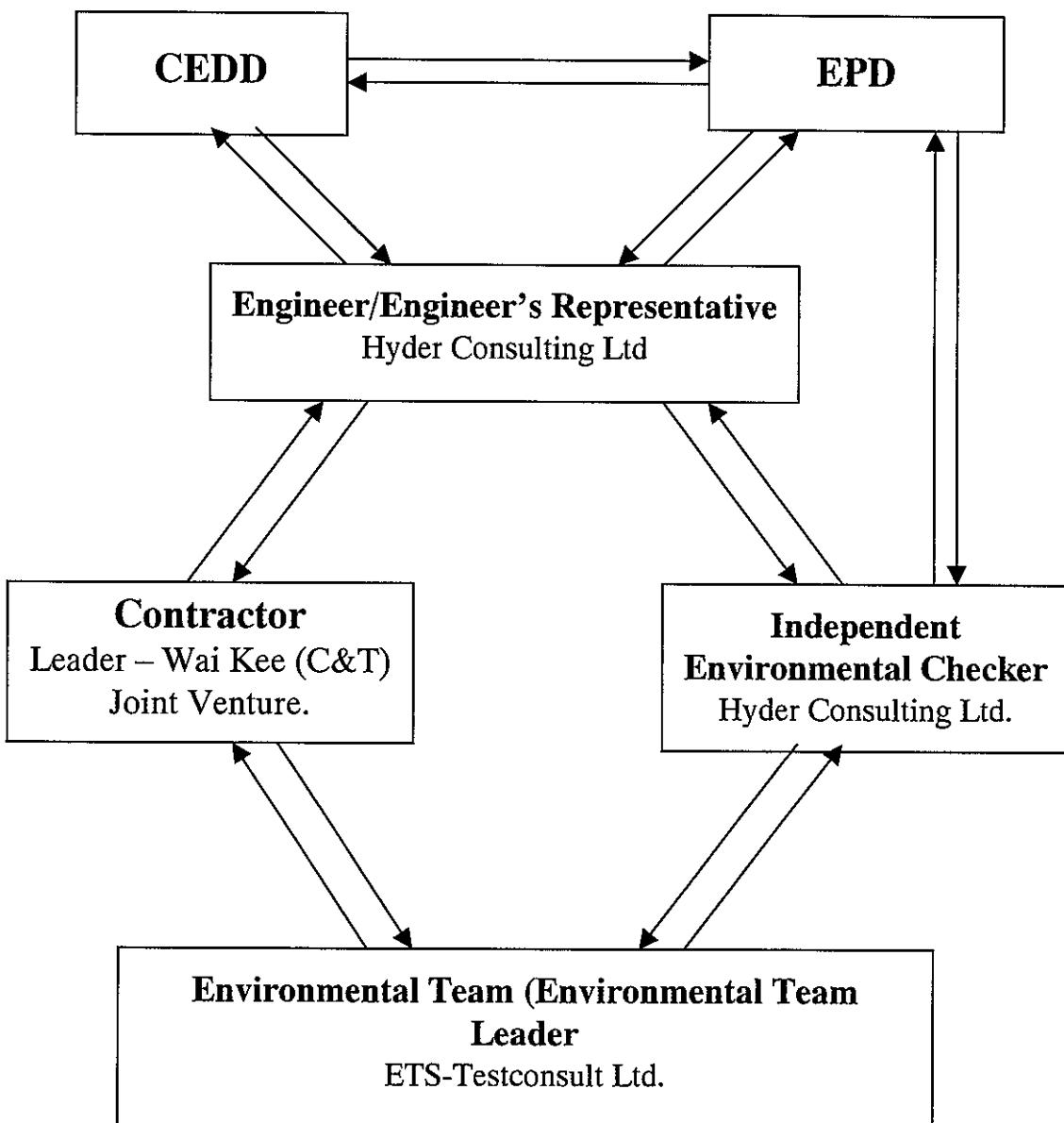
### Organization Chart and Lines of Communication



Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A  
Contractor's Site Organization Chart (Rev. 29<sup>th</sup> October 2005)

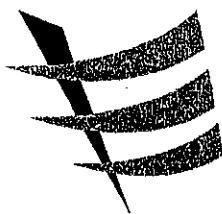


# Lines of Communication



## **Appendix B1**

### **Calibration Certificates for Air Quality Monitoring Equipments**



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

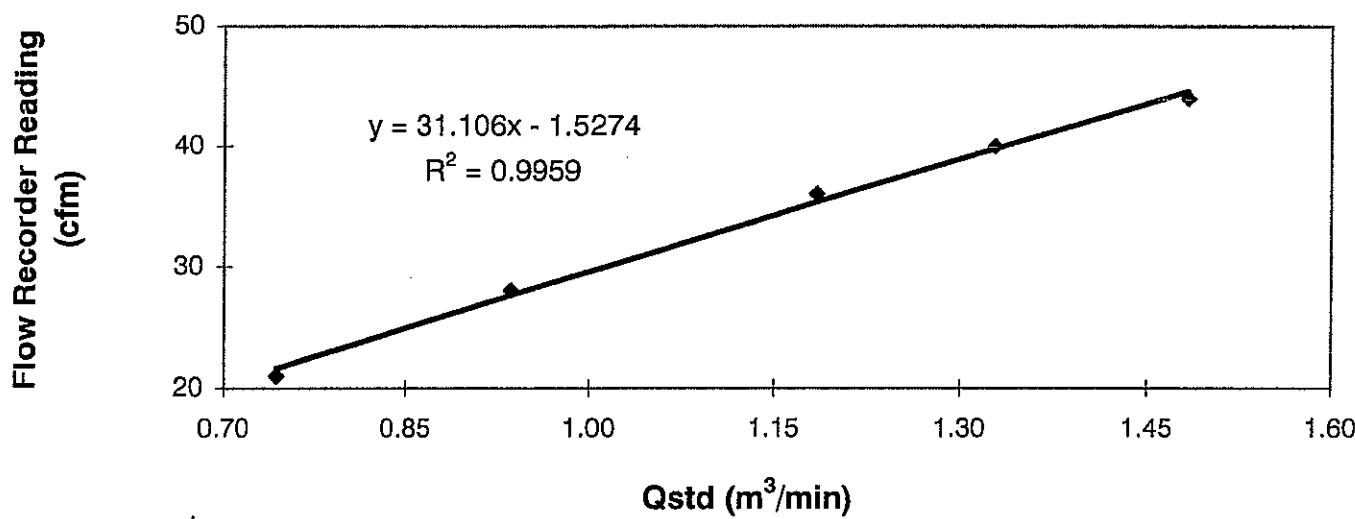
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

**Calibration Report  
of  
High Volume Air Sampler**

Manufacturer	:	Greasby GMW	Date of Calibration	:	15 March 2006
Serial No.	:	1178 (ET / EA / 003 / 01)	Calibration Due Date	:	14 May 2006
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm)	44	40	36
		Qstd (Actual flow rate, m <sup>3</sup> /min)	1.48	1.33	1.19
		Pressure :	767.31 mm Hg	Temp. :	292 K

**Sampler 1178 Calibration Curve  
Site: Pak Shek Kok (AM1) (24hr.)  
Date of Calibration: 15 March 2006**



Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / does not comply \* with the specified requirements and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : H. T. Chow  
H. T. Chow  
(Asst. Environmental Officer)

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



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Fax : 2695 3944

Web site : www.ets-testconsult.com

## TEST REPORT

### Calibration Report

of

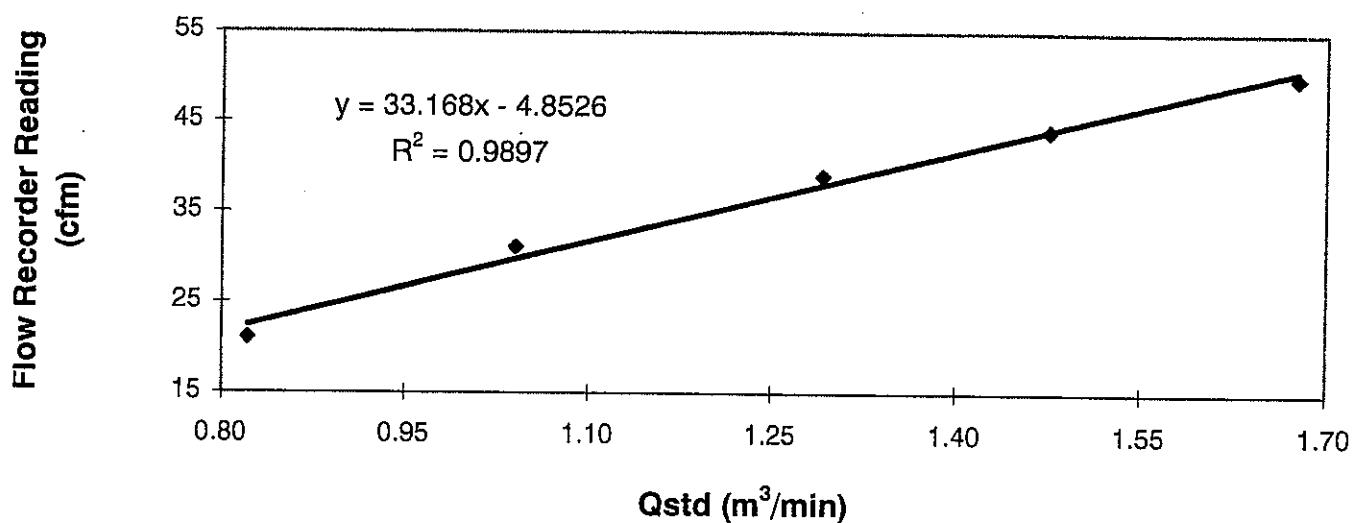
### High Volume Air Sampler

Manufacturer	:	Greasby GMW	Date of Calibration	:	16 January 2006
Serial No.	:	1178 (ET / EA / 003 / 01)	Calibration Due Date	:	15 March 2006
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm)	50	44	39
		Qstd (Actual flow rate, m <sup>3</sup> /min)	1.68	1.48	1.29
		Pressure :	761.46 mm Hg	Temp. :	293 K
			1.04	1.04	0.82

### Sampler 1178 Calibration Curve

Site: Pak Shek Kok (AM1) (24hr.)

Date of Calibration: 16 January 2006



Acceptance Criteria : Correlation coefficient ( $r$ ) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / does not comply \* with the specified requirements and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : H. T. Chow

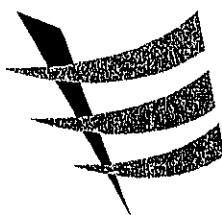
H. T. Chow

(Asst. Environmental Officer)

Approved by : Linda Law

Linda Law

(Environmental Officer)



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ETS-TESTCONSULT LIMITED

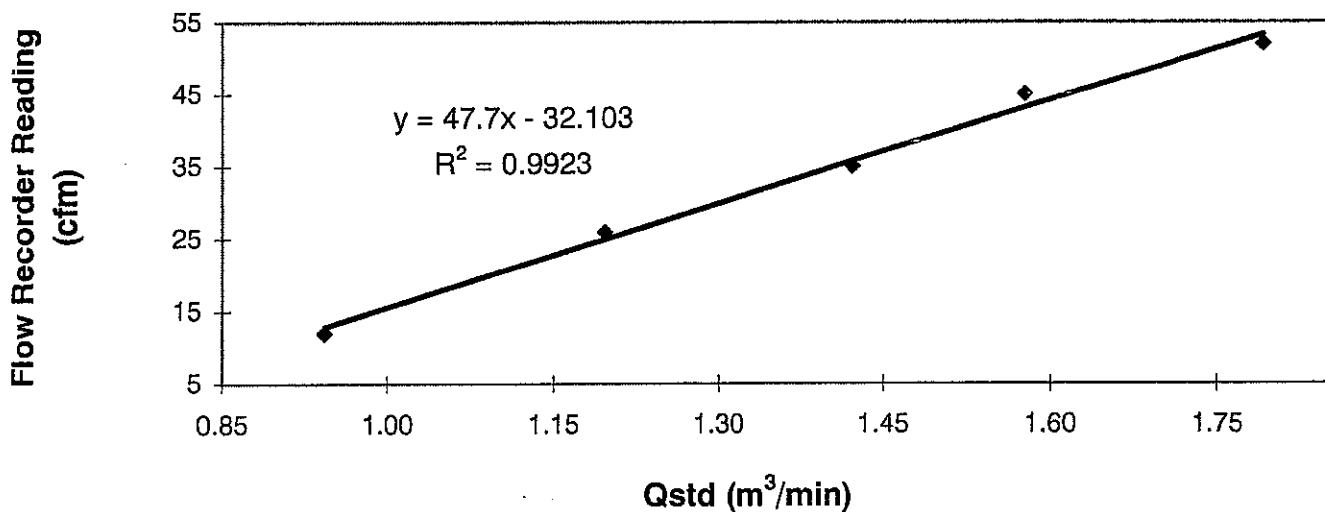
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Foton, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

**Calibration Report  
of  
High Volume Air Sampler**

Manufacturer	:	Greasby GMW	Date of Calibration	:	15 March 2006
Serial No.	:	7179 ( ET / EA / 003 / 16 )	Calibration Due Date	:	14 May 2006
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm)	52	45	35
		Qstd (Actual flow rate, m <sup>3</sup> /min)	1.79	1.58	1.42
		Pressure :	767.31 mm Hg	Temp. :	292 K

**Sampler 7179 Calibration Curve  
Site: Pak Shek Kok (AM3A)  
Date of Calibration: 15 March 2006**

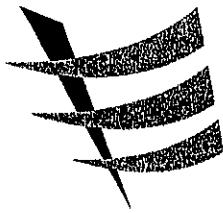


Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / does not comply \* with the specified requirements and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : H. T. Chow  
H. T. Chow  
(Asst. Environmental Officer)

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



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8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Foton, Hong Kong

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E-mail : etl@ets-testconsult.com

Fax : 2695 3944

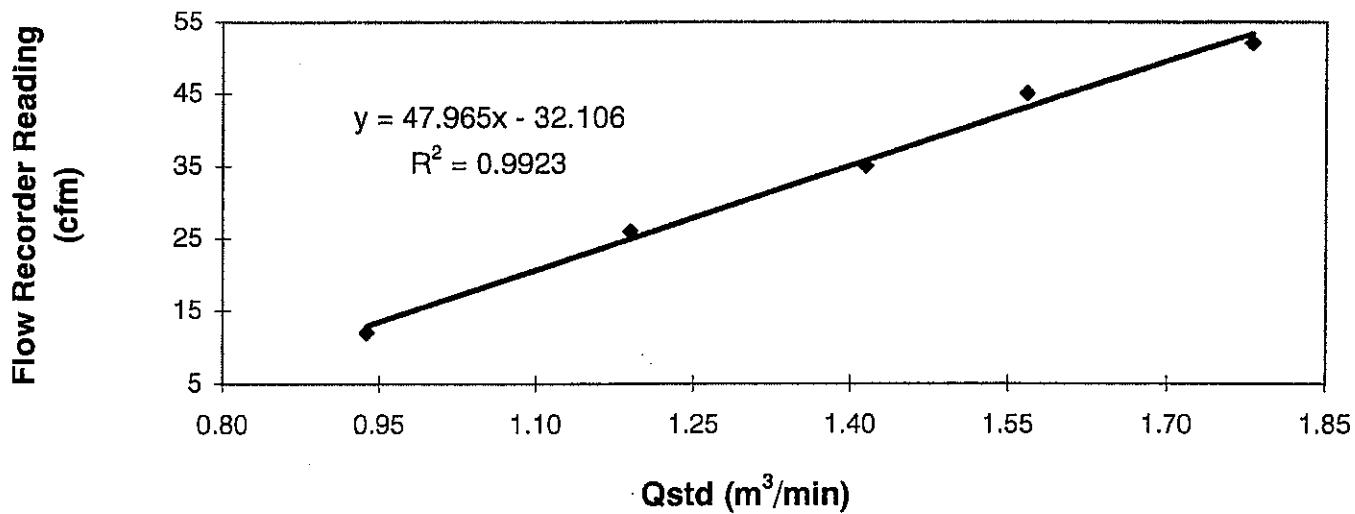
Web site : www.ets-testconsult.com

## TEST REPORT

### Calibration Report of High Volume Air Sampler

Manufacturer	:	Greasby GMW	Date of Calibration	:	16 January 2006																		
Serial No.	:	7179 ( ET / EA / 003 / 16 )	Calibration Due Date	:	15 March 2006																		
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A																					
Results	:	<table border="1"><tr><td>Flow recorder reading (cfm)</td><td>52</td><td>45</td><td>35</td><td>26</td><td>12</td></tr><tr><td>Qstd (Actual flow rate, m<sup>3</sup>/min)</td><td>1.78</td><td>1.57</td><td>1.41</td><td>1.19</td><td>0.94</td></tr><tr><td>Pressure :</td><td colspan="2">761.46 mm Hg</td><td>Temp. :</td><td colspan="2">293 K</td></tr></table>				Flow recorder reading (cfm)	52	45	35	26	12	Qstd (Actual flow rate, m <sup>3</sup> /min)	1.78	1.57	1.41	1.19	0.94	Pressure :	761.46 mm Hg		Temp. :	293 K	
Flow recorder reading (cfm)	52	45	35	26	12																		
Qstd (Actual flow rate, m <sup>3</sup> /min)	1.78	1.57	1.41	1.19	0.94																		
Pressure :	761.46 mm Hg		Temp. :	293 K																			

### **Sampler 7179 Calibration Curve** **Site: Pak Shek Kok (AM3A)** **Date of Calibration: 16 January 2006**



Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

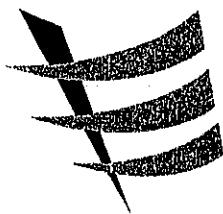
The high volume sampler complies \* / does not comply \* with the specified requirements and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : H. T. Chow

H. T. Chow  
(Asst. Environmental Officer)

Approved by : Linda Law

Linda Law  
(Environmental Officer)



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

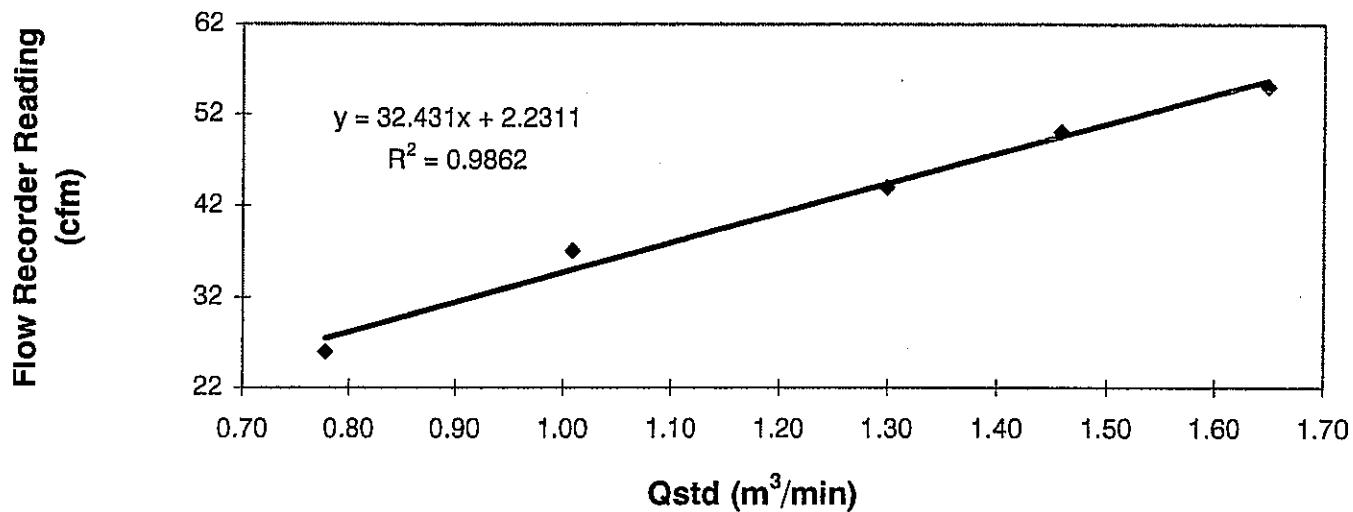
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

**Calibration Report  
of  
High Volume Air Sampler**

Manufacturer	:	Greasby GMW	Date of Calibration	:	15 March 2006
Serial No.	:	1172 ( ET / EA / 003 / 11 )	Calibration Due Date	:	14 May 2006
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm)	55	50	44
		Qstd (Actual flow rate, m <sup>3</sup> /min)	1.65	1.46	1.30
		Pressure :	767.31 mm Hg	Temp. :	292 K
					0.78

**Sampler 1172 Calibration Curve  
Site: Pak Shek Kok (AM5)  
Date of Calibration: 15 March 2006**

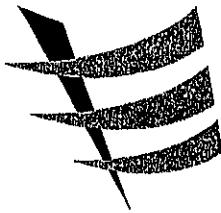


Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / does not comply \* with the specified requirements and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : H. T. Chow  
H. T. Chow  
(Asst. Environmental Officer)

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

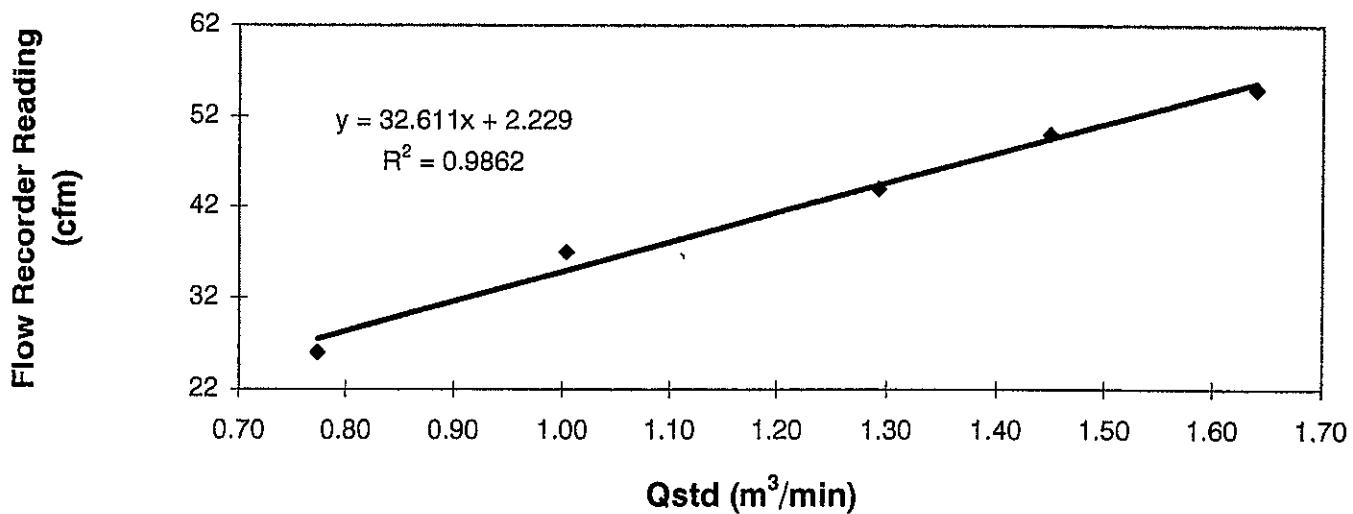
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

**Calibration Report  
of  
High Volume Air Sampler**

Manufacturer	:	Greasby GMW	Date of Calibration	:	16 January 2006
Serial No.	:	1172 ( ET / EA / 003 / 11 )	Calibration Due Date	:	15 March 2006
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm)	55	50	44
		Qstd (Actual flow rate, m <sup>3</sup> /min)	1.64	1.45	1.29
		Pressure :	761.46 mm Hg	Temp. :	293 K
			37	37	26

**Sampler 1172 Calibration Curve  
Site: Pak Shek Kok (AM5)  
Date of Calibration: 16 January 2006**



Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / does not comply \* with the specified requirements and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : H. T. Chow  
H. T. Chow  
(Asst. Environmental Officer)

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



東業德勤測試顧問有限公司

ETS-TESTCONSULT LIMITED

8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong

Tel : 2695 8318

E-mail : eit@ets-testconsult.com

Fax : 2695 3944

Web site : www.ets-testconsult.com

## TEST REPORT

### Internal Calibration Report

of

### Dust Trak Monitor

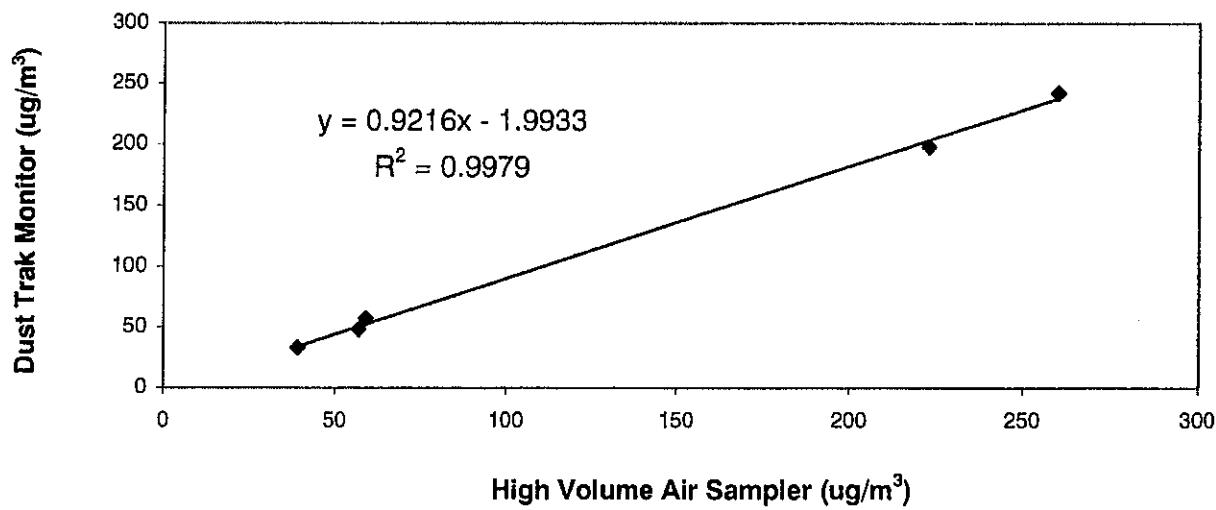
Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 21 January 2006

Serial No. : 14230 ( ET / EA / 001 / 04 ) Calibration Due Date : 20 July 2006

Method : Place the Dust Trak Monitor and High Volume Air Sampler together at same environment condition for parallel measurement with five point calibration

Results	Dust Trak Monitor ( $\mu\text{g}/\text{m}^3$ )	39	57	59	223	260
	High Volume Air Sampler ( $\mu\text{g}/\text{m}^3$ )	33	48	57	198	242
	High Volume Air Sampler Serial No.: 1178	Calibration Date: 16 / 01 / 2006				

### Calibration of Dust Trak Monitor (Serial No. 14230)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a five point calibration

The Dust Trak Monitor complies \* / does not comply \* with the internal calibration procedures and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : Mak Kei Wai  
Mak Kei Wai  
(Technician)

Approved by : H. T. Chow  
H. T. Chow  
(Asst. Environmental Officer)

## **Appendix B2**

### **Air Quality Monitoring Results**

## Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1  
Location : HKIB Staff Accommodation

Start Date	Finish Time	Sampling Time	Flow Rate (m³/min.)	Average (m³/min.)	Filter Weight (g)	Conc. (µg/m³)	Weather Condition
Date	Time	Initial	Final	Initial	Final	(µg/m³)	
03/03/06	13:15	04/03/06 13:11	9743.71	9767.64	23.93	1.11	Sunny
09/03/06	13:05	10/03/06 13:27	9767.64	9792.01	24.37	1.14	Sunny
15/03/06	09:50	16/03/06 10:07	9792.13	9816.42	24.29	1.24	Sunny
21/03/06	09:54	22/03/06 09:55	9816.42	9840.43	24.01	1.34	Cloudy
27/03/06	09:28	28/03/06 09:07	9840.43	9864.08	23.65	1.34	Cloudy

Monitoring Station : AM3A  
Location : Cheung Shue Tan (in front of Man Kee Store)

Start Date	Finish Time	Sampling Time	Flow Rate (m³/min.)	Average (m³/min.)	Filter Weight (g)	Conc. (µg/m³)	Weather Condition
Date	Time	Initial	Final	Initial	Final	(µg/m³)	
03/03/06	13:50	04/03/06 13:53	15099.71	12123.76	24.05	1.44	Sunny
09/03/06	14:20	10/03/06 15:04	15123.76	15148.49	24.73	1.29	Sunny
15/03/06	08:50	16/03/06 09:07	15148.49	15172.77	24.28	1.32	Sunny
21/03/06	13:07	22/03/06 13:34	15172.77	15197.22	24.45	1.47	Cloudy
27/03/06	09:00	28/03/06 09:51	15197.22	15222.07	24.85	1.51	Cloudy

Monitoring Station : AM5  
Location : Near Wen Chin Tung at the CUHK

Start Date	Finish Time	Sampling Time	Flow Rate (m³/min.)	Average (m³/min.)	Filter Weight (g)	Conc. (µg/m³)	Weather Condition
Date	Time	Initial	Final	Initial	Final	(µg/m³)	
03/03/06	13:30	04/03/06 13:37	5129.61	5153.73	24.12	0.97	Sunny
09/03/06	15:30	10/03/06 15:48	5153.73	5178.03	24.30	0.94	Sunny
15/03/06	09:18	16/03/06 09:46	5178.03	5202.49	24.46	1.01	Sunny
21/03/06	14:20	22/03/06 14:31	5202.49	5226.68	24.19	0.98	Cloudy
27/03/06	08:43	28/03/06 08:58	5226.68	5250.93	24.25	0.98	Cloudy

## Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM1 (HKIB Staff Accommodation)

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
02/03/06	09:45	10:45	87	412	174	Sunny
04/03/06	08:30	09:30	90	339	142	Cloudy
07/03/06	08:30	09:30	114	406	277	Cloudy
09/03/06	13:00	14:00	63	592	178	Sunny
11/03/06	08:30	09:30	92	389	148	Cloudy
14/03/06	15:30	16:30	93	339	141	Cloudy
16/03/06	08:15	09:15	72	687	195	Cloudy
18/03/06	10:20	11:20	102	398	162	Cloudy
21/03/06	09:50	10:50	92	397	157	Cloudy
23/03/06	08:50	09:50	57	516	177	Cloudy
25/03/06	08:30	09:30	82	384	154	Rainy
28/03/06	13:30	14:30	102	386	149	Sunny
30/03/06	08:55	09:55	62	532	201	Cloudy

Monitoring Station : AM3 - Cheung Shue Tan Village (near the outer building, a temple)

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
02/03/06	13:00	14:00	95	360	151	Sunny
04/03/06	13:00	14:00	81	317	112	Cloudy
07/03/06	13:08	14:08	97	342	180	Cloudy
09/03/06	14:15	15:15	59	654	164	Sunny
11/03/06	13:00	14:00	65	320	118	Cloudy
14/03/06	09:10	10:10	78	302	99	Cloudy
16/03/06	14:50	15:50	49	464	139	Cloudy
18/03/06	17:30	18:30	79	321	118	Cloudy
21/03/06	13:00	14:00	74	320	113	Cloudy
23/03/06	10:05	11:05	45	466	136	Cloudy
25/03/06	13:00	14:00	64	312	114	Rainy
28/03/06	08:50	09:50	96	327	122	Sunny
30/03/06	10:15	11:15	42	435	131	Cloudy

### Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM5 – Near Wen Chih Tang at the CUHK

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
02/03/06	16:00	17:00	104	343	145	Sunny
04/03/06	14:20	15:20	87	330	130	Cloudy
07/03/06	14:33	15:33	102	368	196	Cloudy
09/03/06	15:30	16:30	47	532	168	Sunny
11/03/06	14:50	15:50	80	349	122	Cloudy
14/03/06	10:30	11:30	80	317	129	Cloudy
16/03/06	10:40	11:40	53	495	158	Cloudy
18/03/06	16:15	17:15	98	376	142	Cloudy
21/03/06	14:20	15:20	88	357	136	Cloudy
23/03/06	11:15	12:15	49	493	156	Cloudy
25/03/06	15:40	16:40	78	357	131	Rainy
28/03/06	10:10	11:10	100	359	139	Sunny
30/03/06	14:40	15:40	52	471	169	Cloudy

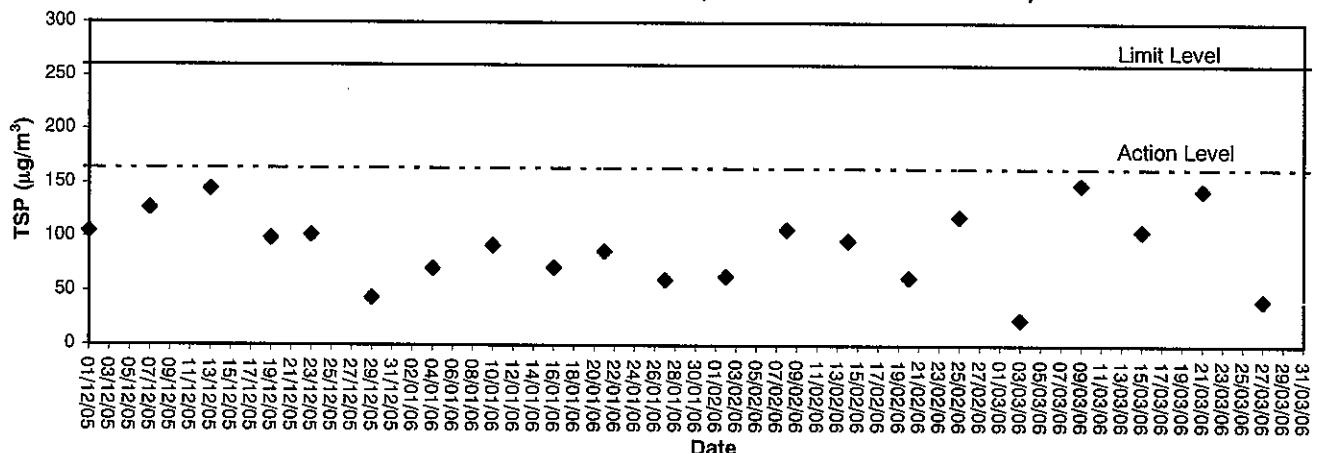


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ETS-TESTCONSULT LIMITED

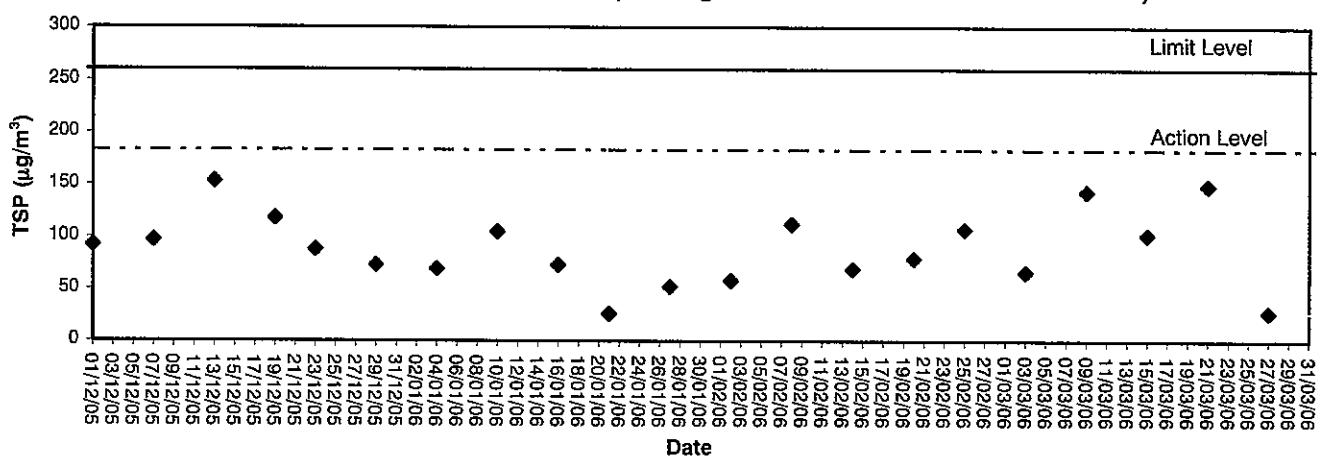
## **Appendix B3**

### **Graphical Plots of Air Quality Monitoring Data**

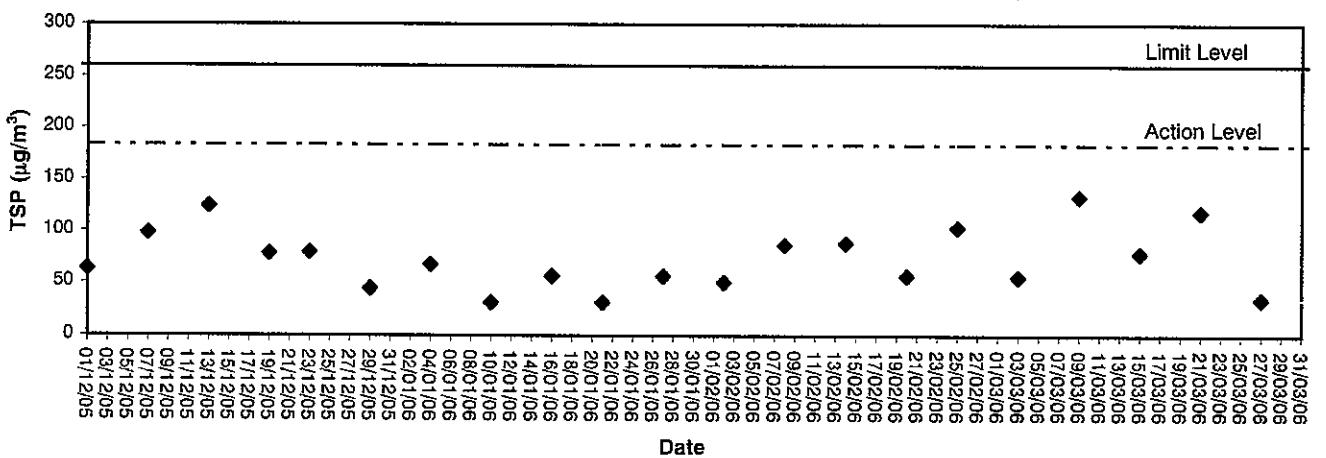
### 24-hour TSP level at AM1 (HKIB Staff Accommodation)



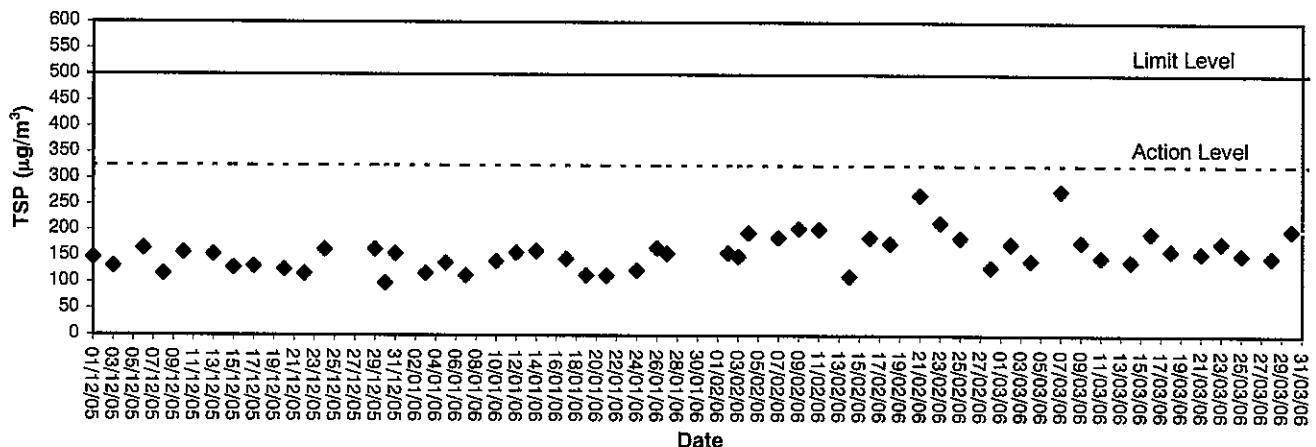
### 24-hour TSP level at AM3A (Cheung Shue Tan in front of Man Kee Store)



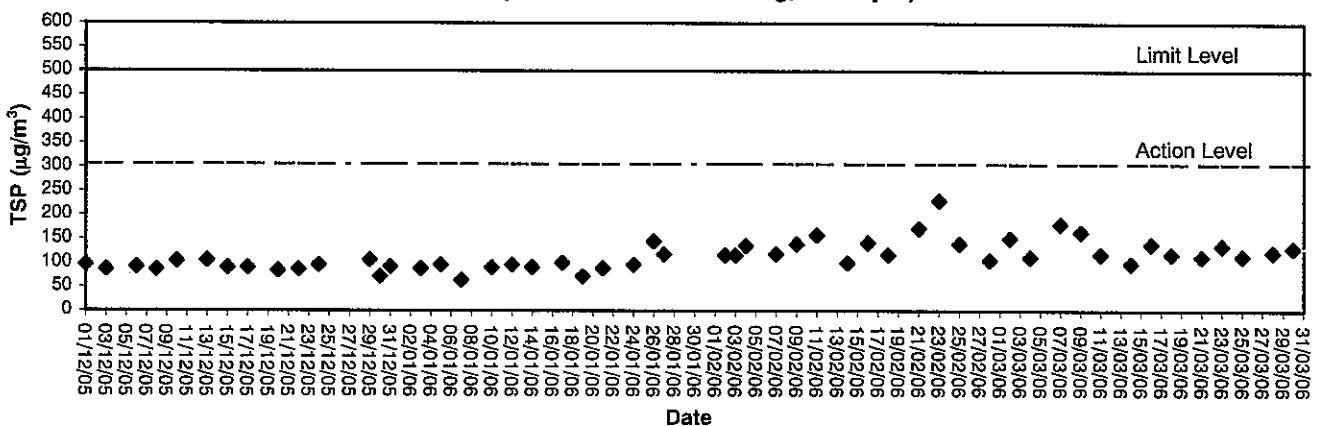
### 24-hour TSP level at AM5 (Wen Chih Tang at the CUHK)



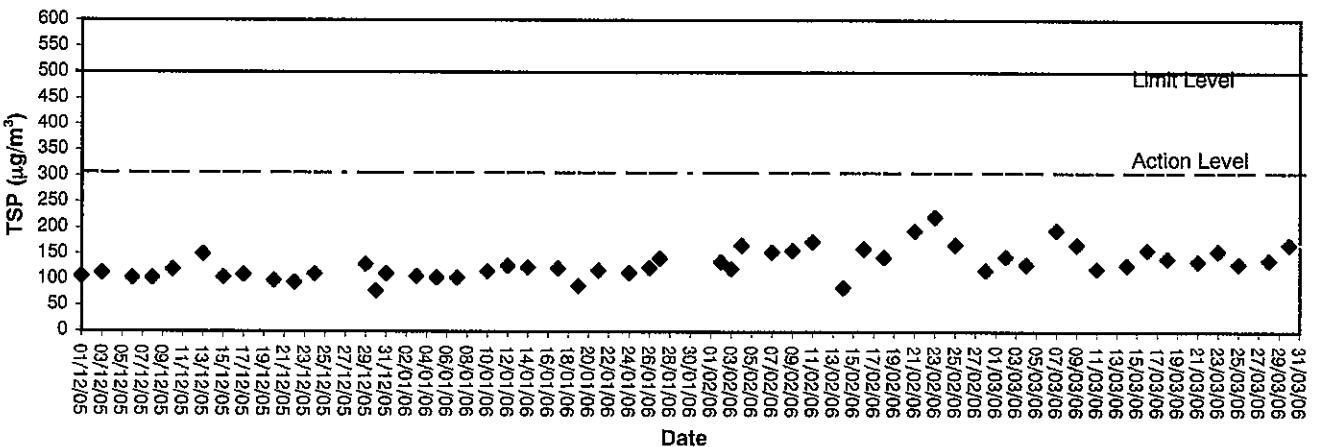
1-hour TSP level at AM1, HKIB Staff Accommodation



1-hour TSP level at AM3, Cheung Shue Tan Village  
(near the outer building, a temple)



1-hour TSP level at AM5 Wen Chih Tang at the CUHK



## Appendix C1

### Calibration Certificates for Noise Monitoring Equipments



Hong Kong Calibration Ltd.

香港校正有限公司

## Calibration Certificate

Certificate No. 51472

Page 1 of 3 Pages

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q50535

Date of receipt : 7-Apr-05

### Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00531142

### Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

Ambient Temperature : (22.5 ± 2.5)°C

Relative Humidity : (50 ± 20) %

### Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : Z01.

### Test Results

All results were within the manufacturer's, IEC 651 Type 1, IEC 804 Type 1 specification.

The results are shown in the attached page(s).

Test equipment used:

Equipment No.	Cert. No.	Due Date	Traceable to
S017	C051022	21-Mar-06	PRC-NIM
S024	S41431	22-May-05	PRC-NIM

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by :

Approved by :

  
Alan Chu

- Manager

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

Date: 20-Apr-05



# Calibration Certificate

Certificate No. 51472

Page 2 of 3 Pages

Results :

## 1. SPL Accuracy

UUT Setting			UUT Reading (dB)	Correction (dB)
Level Range (dB)	Weight	Response		
20 - 100	L <sub>A</sub>	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		0.0
	L <sub>p</sub>	Fast		0.0
30 - 120	L <sub>A</sub>	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		+ 0.1
	L <sub>p</sub>	Fast		+ 0.1
30 - 120	L <sub>A</sub>	Fast	114.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		0.0
	L <sub>p</sub>	Fast		0.0

IEC 651 Type 1 Spec. :  $\pm 0.7$  dB

Uncertainty :  $\pm 0.2$  dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. :  $\pm 0.3$  dB

Uncertainty :  $\pm 0.01$  dB



Hong Kong Calibration Ltd.

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# Calibration Certificate

Certificate No. 51472

Page 3 of 3 Pages

## 3. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	- 39.6	- 39.4 dB, ± 1.5 dB
63 Hz	- 26.2	- 26.2 dB, ± 1.5 dB
125 Hz	- 16.2	- 16.1 dB, ± 1 dB
250 Hz	- 8.7	- 8.6 dB, ± 1 dB
500 Hz	- 3.2	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+ 1.3	+ 1.2 dB, ± 1 dB
5 kHz	+ 1.1	+ 1.0 dB, ± 1 dB
8 kHz	- 1.1	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	- 6.7	- 6.6 dB, + 3 dB ~ ∞

Uncertainty : ± 0.1 dB

## 4. Time Averaging

Applied Burst duty Factor	UUT Reading (dB)	Correction (dB)	IEC 804 Type 1 Spec.
continuous	40.0	--	--
1/10	39.9	+ 0.1	± 0.5 dB
1/10 <sup>2</sup>	39.9	+ 0.1	
1/10 <sup>3</sup>	39.9	+ 0.1	± 1.0 dB
1/10 <sup>4</sup>	39.8	+ 0.2	

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test

2. True Value = UUT Reading + Correction.
3. The uncertainty claimed is for a confidence probability of not less than 95%.
4. Atmospheric Pressure : 1 000 hPa.

----- END -----



# Calibration Certificate

Certificate No. 51473

Page 1 of 2 Pages

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q50535

Date of receipt : 7-Apr-05

## Item Tested

Description : Sound Level Calibrator (Eqip No.: ET/0527/004)

Manufacturer : Rion

Model : NC-73

Serial No. : 10196943

## Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

Ambient Temperature : (22.5 ± 2.5)°C

Relative Humidity : (50 ± 20) %

## Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : F21, Z02.

## Test Results

All results were within the manufacturer's specification.

The results are shown in the attached page(s).

Test equipment used:

Equipment No.	Cert. No.	Due Date	Traceable to
S014	43147	7-Jul-05	PRC-NIM
S024	S41431	22-May-05	PRC-NIM
S041	43734	12-Aug-05	PRC-NIM

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by :

Approved by :

Alan Chu - Manager

This Certificate is issued by:  
Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.  
Tel: 2425 8801 Fax: 2425 8646

Date: 20-Apr-05



Hong Kong Calibration Ltd.

香港校正有限公司

# Calibration Certificate

Certificate No. 51473

Page 2 of 2 Pages

Results :

## 1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value	Mfr's Spec.
94 dB	94.1 dB	± 1 dB

Uncertainty : ± 0.2 dB

## 2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.991 kHz	± 2 %

Uncertainty : ± 0.1 %

## 3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

## 4. Total Harmonic Distortion : < 0.3 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1 000 hPa

4. The above measured values are the mean of 3 measurement.

----- END -----

## Appendix C2

### Noise Monitoring Results

## Day-time Noise Monitoring

**Monitoring Location: NM1 (HKIB Staff Accommodation)**

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
07/03/06	08:32	59.0	61.1	56.7	0.8	Cloudy
14/03/06	15:35	58.7	60.3	55.5	1.7	Cloudy
21/03/06	09:52	58.4	60.3	56.1	0.8	Cloudy
28/03/06	13:35	59.9	61.3	55.0	2.0	Sunny

**Monitoring Location: NM2 (CUHK Residence No.10)**

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
07/03/06	15:30	58.1	59.9	54.3	0.9	Cloudy
14/03/06	14:30	57.9	59.3	54.0	1.3	Cloudy
21/03/06	14:30	55.1	57.4	53.5	0.8	Cloudy
28/03/06	14:20	58.5	59.9	54.0	2.7	Sunny

**Mon Monitoring Location: NM3 (Cheung Shue Tan Village)**

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
07/03/06	13:10	53.1	55.3	49.6	0.9	Cloudy
14/03/06	09:15	55.0	56.5	50.0	0.8	Cloudy
21/03/06	13:02	49.4	51.8	47.0	1.0	Cloudy
28/03/06	08:55	56.0	57.5	50.7	1.1	Sunny

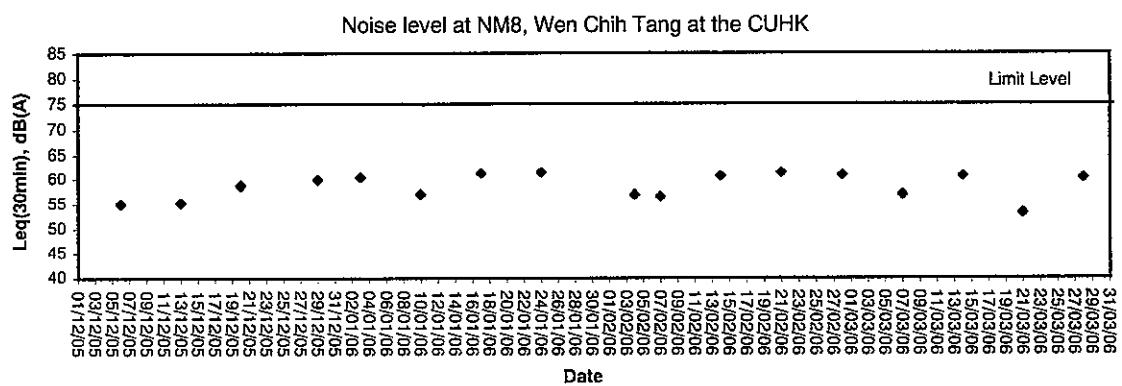
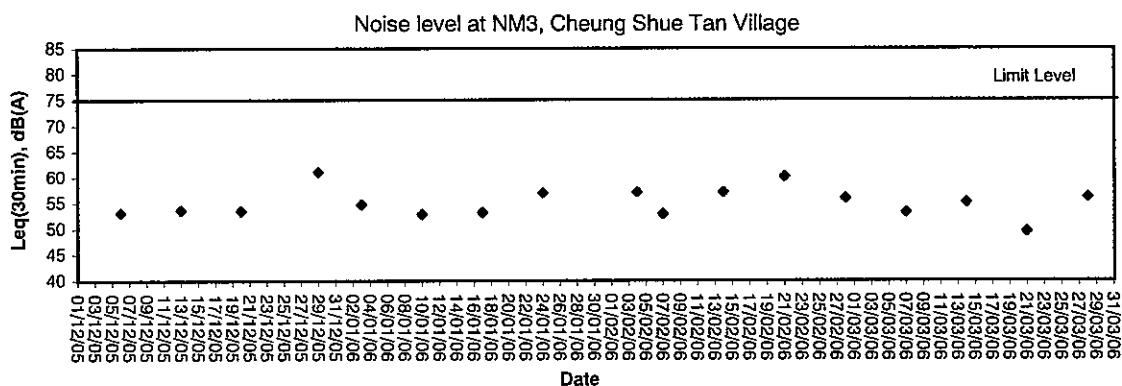
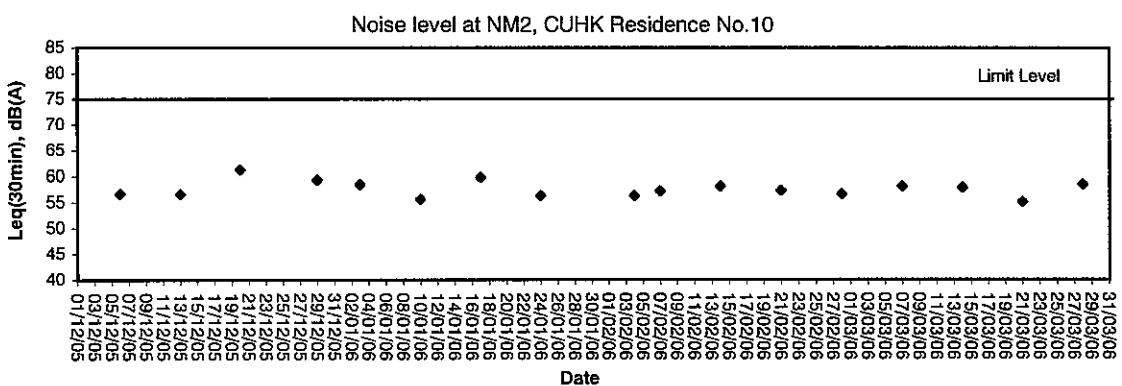
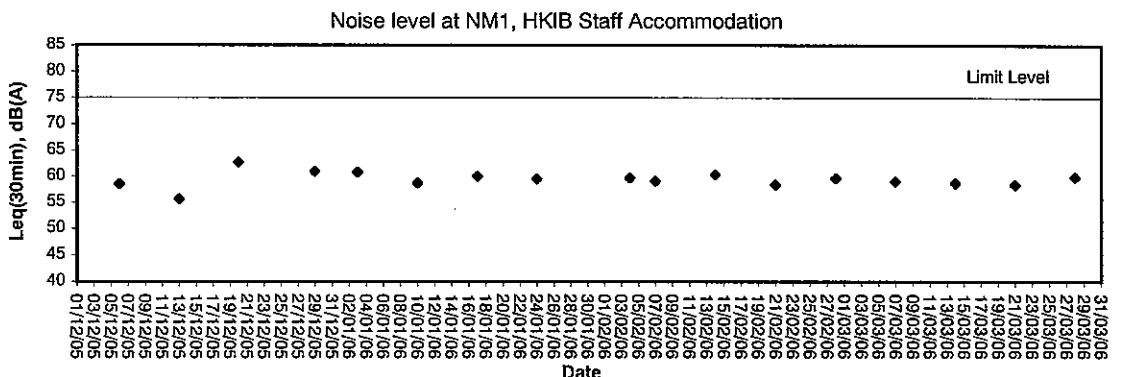
**Monitoring Location: NM8 (Near Wen Chih Tang at the CUHK)**

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
07/03/06	14:35	56.9	59.0	54.4	1.1	Cloudy
14/03/06	10:35	60.6	62.1	56.6	1.0	Cloudy
21/03/06	14:22	53.2	54.6	49.2	1.2	Cloudy
28/03/06	10:14	60.2	61.8	55.5	1.9	Sunny

## Appendix C3

### Graphical Plots of Noise Monitoring Data

## Noise Monitoring (Day-time)



## **Appendix D**

### **Weather Condition**

## Weather Condition

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
01/03/06	0.1	12.9	9.1	71	N	<5
02/03/06	-	15.8	9.7	68	N	<5
03/03/06	-	18.6	12.3	74	E	<5
04/03/06	Trace	17.1	14.1	74	E	<5
05/03/06	2.4	18.6	15.3	88	NE	<5
06/03/06	1.8	20.7	17.8	92	NE	<5
07/03/06	Trace	21.0	19.2	90	E	<5
08/03/06	-	21.9	18.3	86	NE	<5
09/03/06	-	24.0	18.7	87	N	<5
10/03/06	-	22.5	19.6	88	E	<5
11/03/06	-	23.0	19.9	90	E	<5
12/03/06	0.8	23.6	15.6	93	NE	<5
13/03/06	5.1	15.5	9.1	86	N	<5
14/03/06	0.3	15.0	9.0	81	NE	<5
15/03/06	Trace	18.3	14.2	82	NE	<5
16/03/06	Trace	23.4	17.6	82	N	<5
17/03/06	Trace	20.8	19.3	91	N	<5
18/03/06	0.3	26.2	19.6	89	N	<5
19/03/06	Trace	22.7	19.2	81	E	<5
20/03/06	Trace	19.2	17.6	81	NE	<5
21/03/06	Trace	21.4	17.7	91	NE	<5
22/03/06	Trace	22.4	19.6	96	N	<5
23/03/06	11.2	24.9	18.5	95	NE	<5
24/03/06	15.7	18.6	16.7	95	E	<5
25/03/06	6.6	18.3	16.9	93	E	<5
26/03/06	3.0	19.9	17.8	96	NE	<5
27/03/06	1.1	19.0	17.2	96	NE	<5
28/03/06	-	22.8	16.9	75	N	<5
29/03/06	-	21.7	18.2	74	E	<5
30/03/06	Trace	22.5	19.0	84	NE	<5
31/03/06	Trace	24.3	20.5	86	NE	<5

Remark: Data of wind speed and wind direction were extracted from Hong Kong Observatory (Shatin Station).

## **Appendix E**

### **Event-Action Plans**

## Event / Action Plan for Air Quality

EVENT	ET Leader	IC(E)	ER	ACTION	
				CNOTRATOR	
Action Level					
1. Exceedance of one sample	1. Identify source 2. Inform IC(E) and ER 3. Repeat measurement to confirm finding frequency to daily	1. Check monitoring data submitted by ET 2. Check Contractor's working method.	1. Notify Contractor	1. Rectify any unacceptable practice 2. Amend working methods if possible	
2. Exceedance for two more consecutive samples	1. Identify source 2. Inform IC(E) and ER 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Discuss with IC(E) and Contractor on remedial actions required 6. If exceedance continuous, arrange meeting with IC(E) and ER 7. If exceedance stops, cease additional monitoring	1. Checking monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervisor implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial action to IC(E) within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if possible	
Limit Level					
1. Exceedance of one sample	1. Identify source 2. Inform ER and EPD 3. Repeat measurement to confirm finding frequency to daily 4. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results	1. Check monitoring data submitted by ET 2. Check Contractor's working method. 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposal remedial measures 5. Supervisor implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposal for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate	
2. Exceedance for two or more consecutive samples	1. Notify IC(E), ER, Contractor and EPD 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER to discuss the remedial action to be taken 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET, and Contractor on potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IC(E), agreed with the Contractor on the remedial measures to be implemented 4. Ensure remedial measures properly implemented 5. If exceedance continues, consider what portion of this work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if possible still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.	

## Event / Action Plan for Construction Noise

EVENT	ET Leader	IC(E)	ACTION	
			ER	CNOTRACTOR
Action Level	<ol style="list-style-type: none"> <li>Notify IC(E) and Contractor</li> <li>Carry out investigation</li> <li>Report the results of investigation to the IC(E) and Contractor</li> <li>Discuss with the Contractor and formulate remedial measures</li> <li>Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>Review the analyzed results submitted by the ET</li> <li>Review the proposed remedial measures by the Contractor and advise the ER accordingly</li> <li>Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing</li> <li>Notify Contractor</li> <li>Require Contractor to propose remedial measures for the analyzed noise problem</li> <li>Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>Submit noise mitigation proposal to IC(E)</li> <li>Implement noise mitigation proposals</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>Notify IC(E), ER, and Contractor</li> <li>Identify source</li> <li>Repeat measurement to confirm findings</li> <li>Increase monitoring frequency</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>Inform IC(E), ER and EPD the causes &amp; action taken for the exceedances</li> <li>Assess effectiveness of Contractor's remedial action and keep IC(E), EPD and ER informed to the results</li> <li>If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>Discuss amongst ER, ET and Contractor on the potential remedial actions</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly</li> <li>Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing</li> <li>Notify Contractor</li> <li>Require Contractor to propose remedial measures for the analysed noise problem</li> <li>Ensure remedial measures are properly implemented</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated</li> </ol>	<ol style="list-style-type: none"> <li>Take immediate action to avoid further exceedance</li> <li>Submit proposals for remedial actions to IC(E) within 3 working days of notification</li> <li>Implement the agreed proposals</li> <li>Resubmit proposals if problem still not under control</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol>

## **Appendix F**

### **Construction Programme**











Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme : B

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graph TD
    Root[Primavera Systems, Inc.] --- Start[Start milestone point]
    Root --- Finish[Finish milestone point]
    Start --- Early[Early bar]
    Start --- Projected[Projected bar]
    Start --- Critical[Critical bar]
    Early --- Date1[date]
    Early --- StartDate1[start date]
    Projected --- Date2[date]
    Projected --- EndDate2[end date]
    Critical --- Number1[number]
  
```

ID	Description	On Dur	Total Dur	"Pencumb"	Complete	Early Start	Finish	L10	L10	Finish	2003																
											JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	JUL	JUL	
A1AMPF0100	Construct Duct Wall (South Section)	23	72d	0	120FEB06	17MAY06	17MAY06	13JUN06																			
A1AMPF0200	Construct Duct Wall (North Section)	21	67d	0	07MAY06	30MAY06	20MAY06	20JUN06																			
A1AMPF0300	Construct Ething Beam (South Section)	22	58d	0	23JUN06	18FEB06	03APR06	28APR06																			
A1AMPF0400	Construct Ething Beam (North Section)	18	34d	0	14FEB06	08MAY06	25MAR06	15APR06																			
A1AMPF0500	Lighting Duct & Cable Duct (South Section)	10	75d	0	20FEB06	02MAY06	20MAY06	01JUN06																			
A1AMPF0600	Lighting Duct & Cable Duct (North Section)	10	46d	0	07MAY06	17MAY06	04MAY06	15MAY06																			
<b>Roads and Paving</b>																											
A1ANRP0100	Paving Block (South Section)	40	58d	0	23MAY06	10MAY06	02JUN06	18JUL06																			
A1ANRP0200	Paving Block (North Section)	54	34d	0	05APR06	08JUN06	16MAY06	18JUL06																			
<b>Cycle Track</b>																											
<b>Earthworks</b>																											
A1CTEA0100	Remove Ext Surface Mound	18	7d	0	30SEP05	22OCT05	10OCT05	31OCT05																			
<b>Drainage Works</b>																											
A1CTDW0100	Decide Exact Location of Manholes & Catchpits	1	17d	0	30SEP05	30SEP05	22OCT05	22OCT05																			
A1CTDW0200	Soil : Existing Box Culvert	42	32d	0	12OCT05	20NOV05	18NOV05	07JAN06																			
A1CTDW0300	S881 : Existing Box Culvert	42	7d	0	24OCT05	10DEC05	01NOV05	19DEC05																			
A1CTDW0400	S880 : Existing Box Culvert	41	5d	0	16DEC05	04FEB06	22DEC05	11FEB06																			
A1CTDW0500	S887 - S888	18	32d	0	30NOV05	20DEC05	05JAN06	28JAN06																			
<b>Utility Works</b>																											
A1CTUW0100	CLP - 11kV Cable (South Section)	36	7d	0	12JAN06	21FEB06	20JAN06	01MAR06																			
A1CTUW0200	CLP - 11kV Cable (North Section)	28	5d	0	07FEB06	10MAY06	10MAY06	15FEB06																			
A1CTUW0300	CATV - 2 ways Cable TV Duct (South Section)	18	7d	0	25FEB06	17MAY06	17MAY06	23MAY06																			
A1CTUW0400	CATV - 2 ways Cable TV Duct (North Section)	28	11d	0	12DEC05	23JAN06	20DEC05	02FEB06																			
A1CTUW0500	Watermain - 250 Dia (South Section)	35	7d	0	25MAY06	17FEB06	25APR06	08MAY06																			
A1CTUW0600	Watermain - 250 Dia (North Section)	20	5d	0	24JAN06	01FEB06	01FEB06	23FEB06																			
A1CTUW0700	Watermain - Testing and Connection of 300 Dia	16	5d	0	24JAN06	13FEB06	03APR06	24APR06																			
A1CTUW0800	Watermain - Testing and Connection of 450 Dia	16	3d	0	18FEB06	08MAY06	31MAY06	18APR06																			
A1CTUW0900	Install Public Lighting Post	8	5d	0	07MAY06	10MAY06	11JUL06	18JUL06																			
<b>Public Lighting, Duct and Kerb</b>																											
A1CTPK0100	Construct Duct Wall (South Section)	18	7d	0	18MAY06	03APR06	27MAY06	17APR06																			
A1CTPK0200	Construct Duct Wall (North Section)	18	5d	0	25MAY06	16APR06	31MAY06	21APR06																			
A1CTPK0300	Lay Kerb (South Section)	14	17d	0	18MAY06	03APR06	06APR06	24APR06																			
A1CTPK0400	Lay Kerb (North Section)	11	10d	0	25MAY06	07APR06	07APR06	18APR06																			
A1CTPK0500	Lighting Duct & Cable Duct (South Section)	18	7d	0	01APR06	22APR06	11APR06	02MAY06																			
A1CTPK0600	Lighting Duct & Cable Duct (North Section)	10	5d	0	10APR06	29APR06	15APR06	08MAY06																			
<b>Roads and Paving</b>																											
A1CTRP0100	Trim Formation & Lay Subbase (South Section)	12	7d	0	17APR06	28APR06	25APR06	06MAY06																			
A1CTRP0200	Trim Formation & Lay Subbase (North Section)	18	5d	0	14APR06	02MAY06	22MAY06	10MAY06																			
A1CTRP0300	Lay Cycle Track Pavement (South Section)	18	7d	0	02MAY06	28MAY06	12MAY06	03JUN06																			
A1CTRP0400	Lay Cycle Track Pavement (North Section)	18	5d	0	03MAY06	02MAY06	13JUL06	14JUL06																			
<b>Roads, Railings, Traffic Sign and Fencing</b>																											
A1CTRM0100	Apply Road Marking	3	5d	0	25MAY06	27MAY06	01JUN06	02JUN06																			
A1CTRM0200	Erect Signage	4	6d	0	02MAY06	03MAY06	16JUL06	18JUL06																			
A1CTRM0300	Install Railing, Fencing & etc	6	6d	0	03MAY06	02MAY06	13JUL06	14JUL06																			
<b>Temporary Traffic Management Scheme</b>																											
<b>TIA Implementation</b>														<b>Leader - Wai Kee (C&amp;T) Joint Venture</b>												<b>TP3703 • Revised Works Programme - RP04</b>	
Init date																											
Init date																											
Prog. Bar																											
Critical Bar																											
Summary Bar																											
Start point																											
Finish point																											



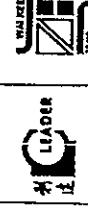
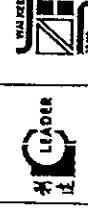
ID	Description	Duration	Work Type	Start Date	Finish Date	Early Finish	Late Start	Late Finish	Timeline											
									Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AZMBVA0300	Construct Ground Beams (Stage 3)	12	1d	0 07JAN06	20JAN06	07JAN06	21JAN06	21JAN06	07JAN06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA0400	Construct Ground Beams (Stage 4)	12	1d	0 21JAN06	07FEB06	07JAN06	07FEB06	07FEB06	07JAN06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA0500	Construct Ground Beams (Stage 5)	12	21d	0 07FEB06	27FEB06	07FEB06	27FEB06	27FEB06	07FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA0600	Construct Wall (Stage 1)	18	13d	0 07FEB06	27FEB06	07FEB06	27FEB06	27FEB06	07FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA0700	Construct Wall (Stage 2)	18	13d	0 28FEB06	20MAR06	07FEB06	24FEB06	24FEB06	07FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA0800	Construct Wall (Stage 3)	18	1d	0 07FEB06	24FEB06	07FEB06	24FEB06	24FEB06	07FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA0900	Construct Wall (Stage 4)	18	1d	0 02FEB06	15MAR06	07FEB06	27FEB06	27FEB06	07FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA1000	Construct Wall (Stage 5)	16	1d	0 16MAR06	03APR06	07FEB06	17MAY06	17MAY06	07FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBVA1100	Construct Slab	36	67d	0 05APR06	17MAY06	07FEB06	24JUN06	24JUN06	07FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
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AZMBPA0100	Construct Pipe Cap	12	40d	0 07JAN06	20JAN06	07JAN06	20JAN06	20JAN06	07JAN06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBPA0200	Construct Columns	21	40d	0 21JAN06	18FEB06	07JAN06	21JAN06	21JAN06	07JAN06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
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<b>North Abutment:</b>																				
AZMBNA0100	Construct RE Wall to Formation of Abutment	16	24d	0 07JAN06	28JAN06	07JAN06	28JAN06	28JAN06	07JAN06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBNA0200	Construct RE Wall to Formation of RC Wall Type A	36	33d	0 01FEB06	14MAR06	01FEB06	14MAR06	14MAR06	01FEB06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBNA0300	Fix RE Wall to Face of Abutment & RC Wall	36	27d	0 13APR06	28MAY06	01APR06	28MAY06	28MAY06	01APR06	14APR06	17MAY06	20JUN06	23JUL06	26AUG06	29SEP06	01OCT06	04NOV06	07DEC06	10JAN07	13FEB07
AZMBNA1100	Construct Pipe Cap	18	24d	0 01FEB06	21FEB06	01FEB06	21FEB06	21FEB06	01FEB06	14FEB06	17MAR06	20APR06	23MAY06	26JUN06	29JUL06	01AUG06	04SEP06	07OCT06	10NOV06	13DEC06
AZMBNA1200	Construct Abutment Walls	24	24d	0 22FEB06	21MARCH06	02FEB06	21MARCH06	21MARCH06	02FEB06	15FEB06	18MARCH06	21APR06	24MAY06	27JUN06	30JUL06	02AUG06	05SEP06	08OCT06	11NOV06	14DEC06
AZMBNA1300	Construct RC Wall Type A	38	27d	0 22MAR06	01MAY06	02MAR06	01MAY06	01MAY06	02MAR06	15MAY06	18JUN06	21JUL06	24AUG06	27SEP06	30OCT06	02NOV06	05DEC06	08JAN07	11FEB07	14MAR07
AZMBNA1400	Construct RC Wall Type B	38	33d	0 01FEB06	14MAR06	01FEB06	14MAR06	14MAR06	01FEB06	14FEB06	17MAR06	20APR06	23MAY06	26JUN06	29JUL06	01AUG06	04SEP06	07OCT06	10NOV06	13DEC06
AZMBNA1500	Construct RC Wall Type C	18	33d	0 16MARCH06	08APR06	01MARCH06	08APR06	08APR06	01MARCH06	14MARCH06	17APR06	20MAY06	23JUN06	26JUL06	29AUG06	01SEP06	04OCT06	07NOV06	10DEC06	13JAN07
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<b>Bridge Deck - Vapour Abutment to Pier:</b>																				
AZMBDA0100	Erect Scaffolding	18	1d	0 07JAN06	08APR06	07JAN06	08APR06	08APR06	07JAN06	10FEB06	13MAR06	16APR06	19MAY06	22JUN06	25JUL06	28AUG06	31SEPT06	04OCT06	07NOV06	10DEC06
AZMBDA0200	Erect Formwork (Bottom Slab)	12	1d	0 26APR06	10MAY06	02APR06	10MAY06	10MAY06	02APR06	13APR06	16MAY06	19JUN06	22JUL06	25AUG06	28SEP06	01OCT06	04NOV06	07DEC06	10JAN07	13FEB07
AZMBDA0300	Steel Fixing	8	13d	0 11MAY06	19MAY06	05MAY06	19MAY06	19MAY06	05MAY06	18MAY06	21JUN06	24JUL06	27AUG06	30SEP06	03OCT06	06NOV06	09DEC06	12JAN07	15FEB07	18MAR07
AZMBDA0400	Erect Formwork (Ridger)	8	13d	0 20MAY06	02JUN06	14MAY06	02JUN06	02JUN06	14MAY06	17MAY06	20JUN06	23JUL06	26AUG06	29SEP06	02OCT06	05NOV06	08DEC06	11JAN07	14FEB07	17MAR07
AZMBDA0500	Concreting	1	13d	0 30MAY06	30MAY06	01JUN06	30MAY06	30MAY06	01JUN06	14JUN06	15JUN06	16JUN06	17JUN06	18JUN06	19JUN06	20JUN06	21JUN06	22JUN06	23JUN06	24JUN06
AZMBDA0600	Erect Formwork (Diaphragm & Top Slab)	10	1d	0 01JUN06	12JUN06	01JUN06	12JUN06	12JUN06	01JUN06	15JUN06	16JUN06	17JUN06	18JUN06	19JUN06	20JUN06	21JUN06	22JUN06	23JUN06	24JUN06	25JUN06
AZMBDA0700	Steel Fixing	8	13d	0 13JUN06	01JUL06	01JUN06	01JUL06	01JUL06	01JUN06	14JUN06	15JUN06	16JUN06	17JUN06	18JUN06	19JUN06	20JUN06	21JUN06	22JUN06	23JUN06	24JUN06
AZMBDA0800	Concrete	1	13d	0 22JUN06	08JUL06	02JUN06	08JUL06	08JUL06	02JUN06	15JUN06	16JUN06	17JUN06	18JUN06	19JUN06	20JUN06	21JUN06	22JUN06	23JUN06	24JUN06	25JUN06
AZMBDA0900	Install. Steele Tendons & Grouting	24	1d	0 03JUL06	01AUG06	01JUL06	01AUG06	01AUG06	01JUL06	14JUL06	15JUL06	16JUL06	17JUL06	18JUL06	19JUL06	20JUL06	21JUL06	22JUL06	23JUL06	24JUL06
AZMBDA1000	Remove Formwork & Scaffolding	8	45d	0 12AUG06	21AUG06	01AUG06	21AUG06	21AUG06	01AUG06	15AUG06	16AUG06	17AUG06	18AUG06	19AUG06	20AUG06	21AUG06	22AUG06	23AUG06	24AUG06	25AUG06
AZMBDA1100	Confidence Painting	70	1d	0 05AUG06	26OCT06	01AUG06	26OCT06	26OCT06	01AUG06	14OCT06	15OCT06	16OCT06	17OCT06	18OCT06	19OCT06	20OCT06	21OCT06	22OCT06	23OCT06	24OCT06
AZMBDA1200	Confidence Centre Barrier	38	1d	0 01SEP06	03NOV06	02SEP06	03NOV06	03NOV06	02SEP06	15SEP06	16SEP06	17SEP06	18SEP06	19SEP06	20SEP06	21SEP06	22SEP06	23SEP06	24SEP06	25SEP06
<hr/>																				
AZMBDC0100	Erect Scaffolding	19	24d	0 22JAN06	12FEB06	02JAN06	12FEB06	12FEB06	02JAN06	15FEB06	16FEB06	17FEB06	18FEB06	19FEB06	20FEB06	21FEB06	22FEB06	23FEB06	24FEB06	25FEB06
AZMBDC0200	Erect Formwork (Bottom Slab)	12	10	0 11MAY06	24MAY06	01MAY06	24MAY06	24MAY06	01MAY06	14MAY06	15MAY06	16MAY06	17MAY06	18MAY06	19MAY06	20MAY06	21MAY06	22MAY06	23MAY06	24MAY06
AZMBDC0300	Steel Fixing	8	10	0 25MAY06	03JUN06	02MAY06	03JUN06	03JUN06	02MAY06	14JUN06	15JUN06	16JUN06	17JUN06	18JUN06	19JUN06	20JUN06	21JUN06	22JUN06	23JUN06	24JUN06
AZMBDC0400	Erect Formwork (Ridger)	8	10	0 05JUN06	13JUN06	04JUN06	13JUN06	13JUN06	04JUN06	17JUN06	18JUN06	19JUN06	20JUN06	21JUN06	22JUN06	23JUN06	24JUN06	25JUN06	26JUN06	27JUN06
AZMBDC0500	Concreting	1	10	0 06JUN06	14JUN06	05JUN06	14JUN06	14JUN06	05JUN06	18JUN06	19JUN06	20JUN06	21JUN06	22JUN06	23JUN06	24JUN06	25JUN06	26JUN06	27JUN06	28JUN06
AZMBDC0600	Install. Steele Tendons & Grouting	24	1d	0 08JUN06	06JUL06	07JUN06	06JUL06	06JUL06	07JUN06	21JUL06	22JUL06	23JUL06	24JUL06	25JUL06	26JUL06	27JUL06	28JUL06	29JUL06	30JUL06	31JUL06
AZMBDC0700	Remove Formwork & Scaffolding	8	36d	0 19JUN06	01AUG06	08JUN06	01AUG06	01AUG06	08JUN06	21AUG06	22AUG06	23AUG06	24AUG06	25AUG06	26AUG06	27AUG06	28AUG06	29AUG06	30AUG06	31AUG06
AZMBDC0800	Confidence Report	70	14	0 03AUG06	26OCT06	02AUG06	26OCT06	26OCT06	02AUG06	15OCT06	16OCT06	17OCT06	18OCT06	19OCT06	20OCT06	21OCT06	22OCT06	23OCT06	24OCT06	25OCT06
AZMBDC1100	Construct Ground Beams (Stage 3)	12	1d	0 07JAN06	21JAN06	01JAN06	21JAN06	21JAN06	01JAN06	14JAN06	15JAN06	16JAN06	17JAN06	18JAN06	19JAN06	20JAN06	21JAN06	22JAN06	23JAN06	24JAN06
AZMBDC1200	Construct Ground Beams (Stage 4)	12	1d	0 21JAN06	07FEB06	01JAN06	21JAN06	21JAN06	01JAN06	14FEB06	15									





ID	Description	Ong Total		Percent Complete	Early Start	Late Finish	Late Start	Duration
		Dur	Flost					
<b>Utility Works</b>								
A2RSU0010	Scales - 8x8s	21	100	0	11APR08	05MAY08	22APR08	17MAY08
A2RSU0200	NWTT & HGC - Laying Cable Duct	19	300	0	01MAY08	21MAY08	04APR08	26APR08
A2RSU0210	NWTT & HGC - Cable Connection	27	440	0	17APR08	18MAY08	08JUN08	11JUL08
A2RSU0500	WTAT - Laying Cable Duct	18	300	0	22MAY08	12APR08	27APR08	18MAY08
A2RSU0510	WTAT - Cable Connection	26	280	0	08MAY08	07JUN08	10JUN08	11JUL08
A2RSU0740	PCCW - Laying Cable Duct	38	300	0	22MAY08	04MAY08	27APR08	01JUN08
A2RSU07410	PCCW - Cable Connection	28	50	0	05JUN08	06JUL08	10JUN08	11JUL08
A2RSU0750	Install Public Lighting Post	8	200	0	21JUL08	28JUL08	14AUG08	22AUG08
<b>Public Lighting, Duct and Krub</b>								
A2RSPL0100	Construct Duct Wall	34	100	0	08MAY08	15JUN08	18MAY08	27JUN08
A2RSPL0200	Lay Kerb	9	100	0	11JUL08	20JUL08	01AUG08	01AUG08
A2RSPL0300	Lighting Duct & Cable Duct	20	100	0	18JUN08	10JUL08	28JUN08	21JUL08
<b>Roads and Paving</b>								
A2RSRP0100	Trim Formation & Lay Subbase	18	210	0	10JUN08	07JUL08	12JUL08	01AUG08
A2RSRP0200	Road Pavement	18	100	0	21JUL08	10AUG08	02AUG08	22AUG08
A2RSRP0300	Curvilinear Pavement between Cr. and RW no. 1	24	50	0	06JUL08	02AUG08	12JUL08	08AUG08
<b>Roads, Drainage, Traffic Signs and Fencing</b>								
A2RSRN0100	Apply Road Marking	3	50	0	17AUG08	19AUG08	23AUG08	25AUG08
A2RSRN0200	Erect Signage	12	50	0	03AUG08	16AUG08	09AUG08	22AUG08
A2RSRN0300	Install Railing, Fencing & etc	12	50	0	03AUG08	16AUG08	09AUG08	22AUG08
<b>Electrical Sub Contract</b>								
A2SCDWH0100	Decide Exact Location of Manholes & Catchpits	1	100	0	30SEP08	30SEP08	13MAY08	13MAY08
A2SCDWH0200	S654 - S647 (TTA No. 04)	42	50	0	08MAY08	27JUN08	15MAY08	04JUL08
A2SCDWH0300	Construct Gutter (TTA No. 08)	4	380	0	22AUG08	25AUG08	03OCT08	08OCT08
<b>Drainage Works</b>								
A2SCUT0000	Watermain - Replace SWHA (TTA No. 04)	24	50	0	14JUN08	12JUL08	20JUN08	18JUL08
A2SCUT0100	Watermain - Lay PWTH Crossing (TTA No. 04)	18	50	0	21JUN08	12JUL08	21JUN08	18JUL08
A2SCUT0200	Watermain - Lay PWTH Crossing (TTA No. 08)	24	380	0	26AUG08	22SEP08	08OCT08	08NOV08
A2SCUT0300	Install Public Lighting Post (TTA No. 04)	6	140	0	01AUG08	08AUG08	17AUG08	25AUG08
A2SCUT1000	Install Public Lighting Post (TTA No. 08)	8	380	0	06OCT08	17OCT08	21NOV08	28NOV08
<b>Public Lighting, Duct and Krub</b>								
A2SCLP0100	Lay Kerb (TTA No. 04)	9	50	0	22JUL08	31AUG08	08OCT08	05AUG08
A2SCLP0200	Lay Kerb (TTA No. 08)	61	380	0	30SEP08	08OCT08	14NOV08	20NOV08
A2SCLP0300	Lighting Duct & Cable Duct (TTA No. 04)	6	50	0	13JUL08	21JUL08	16JUL08	27JUL08
A2SCLP0400	Lighting Duct & Cable Duct (TTA No. 08)	6	380	0	23SEP08	29SEP08	07NOV08	13NOV08
<b>Roads and Paving</b>								
A2SCP0100	Trim Formation & Lay Subbase (TTA No. 04)	12	50	0	22JUL08	04AUG08	28JUL08	10AUG08
A2SCP0200	Road Pavement (TTA No. 04)	12	50	0	05AUG08	18AUG08	11AUG08	24AUG08
A2SCP0300	Road Pavement (TTA No. 08)	9	380	0	08OCT08	17OCT08	21NOV08	28NOV08
A2SCP0400	Remove Existing Traffic Island (TTA No. 02)	6	190	0	25APR08	02MAY08	19MAY08	24MAY08
A2SCP0500	Road Pavement (TTA No. 02)	6	190	0	03MAY08	11MAY08	25MAY08	03JUN08
<b>Roads, Drainage, Traffic Signs and Fencing</b>								
A2SCRN0000	Apply Road Marking (TTA No. 04)	1	50	0	18AUG08	18AUG08	25AUG08	25AUG08
A2SCRN0100	Apply Road Marking (TTA No. 08)	3	380	0	18OCT08	29OCT08	30NOV08	02DEC08
A2SCRN0200	Erect Signage	12	740	0	18AUG08	01SEP08	16AUG08	28NOV08
A2SCRN0300	Install Railing, Fencing & etc	12	740	0	18AUG08	01SEP08	16AUG08	28NOV08
<b>Site</b>								
Start date		10JUN08		Early Date				
Finish date		20OCT08		Progress bar				
Date date		25SEP08		Critical bar				
Run date		11OCT08		Summary bar				
Page Number	11A			Start milestone point				
c Prismetric Systems, Inc.				Finish milestone point				

Leader - Wal Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP04



Act ID	Description	Orig Dur	Total Dur	Percent Completed	Early Start	Late Start	Finish
Existing Sea Crossing Street Reconstruction							
Public Lighting Direct and Kerb							
A2SRP0100 Layng Lighting Cross Road Duct (TTA No. 05)	4	10jd	0	0	01JUN06	12JUN06	03OCT06
A2SRP0200 Layng Lighting Cross Road Duct (TTA No. 05)	4	10jd	0	0	24JUN06	29JUN06	24OCT06
A2SRP0100 Demolish Existing Island (TTA No. 05)	8	10jd	0	0	25MAY06	07JUN06	28SEP06
A2SRP0200 Construct Proposed Island (TTA No. 05)	8	10jd	0	0	13JUN06	21JUL06	04OCT06
A2SRP0300 Demolish Existing Kerb (TTA No. 06)	2	10jd	0	0	23JUN06	24JUN06	21OCT06
A2SRP0400 Lay Kerb (TTA No. 06)	6	10jd	0	0	30JUN06	10JUL06	29OCT06
A2SRP0500 Demolish Existing Roundabout (TTA No. 07)	6	10jd	0	0	14JUL06	22JUL06	11NOV06
A2SRP0600 Reconstruct Roundabout (TTA No. 07)	8	10jd	0	0	24JUL06	01AUG06	21NOV06
A2SRP0700 Remove Road Pavement (TTA No. 08)	2	10jd	0	0	11JUL06	12JUL06	08NOV06
A2SRP0800 Resurfacing Wearing Course	9	10jd	0	0	02AUG06	10AUG06	31NOV06
A2SRP0900 Construct Proposed Island (TTA No. 08)	12	7d	0	0	04AUG06	18DEC06	25DEC06
Round Abutting Traffic Sign and Fencing							
A2ERB0100 Apply Road Marking	2	10jd	0	0	25AUG06	28AUG06	23OCT06
A2ERB0200 Erect Signage	12	10jd	0	0	11AUG06	24AUG06	05DEC06
A2ERB0300 Install Railing, Fencing & etc	12	10jd	0	0	11AUG06	24AUG06	09DEC06
Existing Ma Lu Shui Bridge							
Utility Works							
A2EBU0100 Install Public Lighting Post	8	8jd	0	0	03OCT06	12OCT06	15DEC06
Public Lighting Direct and Kerb							
A2EBK0100 Lay Kerb (TTA No. 03)	8	4jd	0	0	13JUN06	21JUN06	07AUG06
A2EBP0200 Cache Duct Laying on Island (TTA No. 03)	6	7jd	0	0	20AUG06	01SEP06	24NOV06
A2EBP0300 Cache Duct Laying on Reserve (TTA No. 03)	6	6jd	0	0	08SEP06	11SEP06	18NOV06
Roads and Pavement							
A2ERB0100 Demolish Existing Pavement (TTA No. 03)	12	11jd	0	0	29MAY06	12JUN06	12OCT06
A2ERB0200 Demolish Island & Paved Area (TTA No. 03)	12	4jd	0	0	29MAY06	12JUN06	24JUL06
A2ERB0300 Road Pavement (TTA No. 03)	8	4jd	0	0	22JUN06	30JUN06	16AUG06
A2ERB0400 Construct Roundabout on V-Absentment (TTA No. 03)	8	11jd	0	0	13JUN06	21JUN06	26OCT06
A2ERB0500 Remove Pavement at Proposed Island (TTA No. 06)	4	7jd	0	0	22AUG06	03AUG06	20NOV06
A2ERB0600 Construct Traffic Island (TTA No. 06)	8	7jd	0	0	02SEP06	11SEP06	01DEC06
A2ERB0700 Construct Remanaging Roundabout (TTA No. 06)	12	8jd	0	0	02AUG06	04SEP06	27NOV06
A2ERB0800 Demolish Existing Central Reserve (TTA No. 08)	12	5jd	0	0	22AUG06	04SEP06	28OCT06
A2ERB0900 Construct New Central Reserve (TTA No. 08)	18	5jd	0	0	12SEP06	02OCT06	09DEC06
Road Abutting, Traffic Sign and Fencing							
A2ERB0100 Apply Road Marking (TTA No. 03)	1	4jd	0	0	03JUL06	03JUL06	25AUG06
A2ERB0200 Apply Road Marking (TTA No. 08)	1	5jd	0	0	18OCT06	19OCT06	25DEC06
A2ERB0300 Erect Signage	12	5jd	0	0	03OCT06	17OCT06	11DEC06
A2ERB0400 Install Railing, Fencing & etc	12	5jd	0	0	03OCT06	17OCT06	23DEC06
Car Park and Access Road							
Drainage Works							
A2CPW1200 Sodz - Existing Culvert	21	8jd	0	0	06MAY06	30MAY06	19AUG06
A2CPW1300 CP032 - Sodz	18	8jd	0	0	01JUN06	19JUN06	13SEP06
Utility Works							
A2ERB0100 Install Public Lighting Post	8	10jd	0	0	14AUG06	22AUG06	18DEC06
Public Lighting Direct and Kerb							
A2ERB0200 Construct Driveway Wall	23	8jd	0	0	20AUG06	17AUG06	28OCT06
A2ERB0300 Lay Kerb	8	8jd	0	0	04AUG06	12AUG06	25NOV06
Contract Details							
Start date	1 JUN 04	■	Early bar				
Initial date	29 OCT 07	■	Progress bar				
Yield date	2 SEP 08	■	Critical bar				
Unpl. date	17 OCT 08	—	Summary bar				
Ref. number	12A	—	Start milestone point				
Ref. number	TP37/03	◆	Finish milestone point				
c Primavera Systems, Inc.							
Leader - Wai Kee (C&T) Joint Venture							
TP37/03 - Revised Works Programme - RP04							





ID	Description	Ongoing	Start	Early Start	Percent Complete	Float	Late Start	Early Finish	Finish	Month	Year	2004	2004	2004	2004	2005	2005	2005	2005	2005	2005
A3MSEPH00	Finishing Works at East Ramp	24	200	0	11AUG04	07SEP04	04SEP05	03SEP05	30SEP05	Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3MSEPH00	Finishing Works at West Ramp	24	200	0	08SEP04	10OCT04	02OCT05	31OCT05		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
E & I Works																					
A3NSEM0100	Electrical Installation at Barric & Pump House	24	680	0	11AUG04	07SEP04	01NOV04	28NOV04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3NSEM0200	Electrical Installation at East Ramp	24	448	0	08SEP04	15OCT04	01NOV04	28NOV04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3NSEM0300	Electrical Installation at West Ramp	24	208	0	08OCT04	04NOV04	01NOV04	28NOV04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Testing and Commissioning																					
ASMECT0100	Pumping System & Electrical Installation	24	204	0	08NOV04	02DEC04	20NOV04	28NOV04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Landscaping Area																					
Drainage Works																					
A3LUDW0100	Decide Location of Manholes & Catchpots	1	172d	0	30SEP04	03SEP05	27APR05	27APR05		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW0200	F302 - F308	28	23d	0	05JUL04	05JUL05	03JUL05	01AUG05		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW0300	Trap PI for F308 - F308A (Deleted)	10	100	28JAN05 A	28JAN05 A	28JAN05 A	28JAN05 A		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
A3LUDW0400	F308 - F308A (TTA No. 06)	11	318d	0	30SEP04	14OCT04	19OCT04	01NOV04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW0500	F308 - F308A (TTA No. 06)	11	813	0	22AUG04	02SEP05	27NOV04	08DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW0600	F308A - Existing Sewer Manhole	21	18d	0	15OCT04	08NOV04	02NOV04	25APR05		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW0700	\$712 - \$822	21	23d	0	31MAY05	25APR05	28APR05	23MAY05		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW0800	\$417 - \$818	11	23d	0	20APR04	08MAY04	24MAY04	08JUN04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW0900	\$476 - \$824	21	23d	0	10MAY04	03JUN05	07JUN05	30JUN05		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW1000	\$578 - \$823 (TTA no. 04)	26	48d	0	08JUL04	04AUG04	29AUG04	21SEP04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUDW1100	\$713 - \$854	21	23d	0	06JUL04	28JUL04	02AUG04	28AUG04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Utility Works																					
A3LUPL0100	CLP - Laying LV Cable	5	23d	0	02SEP04	07SEP04	20SEP04	04OCT04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUPL0200	CLP - Construct Pillar Box	5	147d	0	31MAY04	04APR05	22SEP04	26SEP04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUPL0300	Install Public Lighting Post	0	87d	0	05SEP04	13SEP04	18SEP04	18OCT04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Public Lighting: Dust and Kudu																					
A3LUPL0400	Construct Drift Wall (TTA No. 04)	50	23d	0	08JUL04	01SEP05	02AUG04	28SEP04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUPL0500	Construct Drift Wall (TTA No. 04)	0	48d	0	05AUG04	11AUG05	28SEP04	04OCT04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUPL0600	Lay Kudu (TTA No. 04)	12	23d	0	28SEP04	18OCT04	27OCT04	10NOV04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUPL0700	Lay Kudu (TTA No. 05)	6	88d	0	22AUG04	02AUG05	02DEC04	08DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUPL0800	Lighting Drivpt & Cables Drivpt (TTA No. 04)	18	23d	0	08SEP04	28SEP04	06OCT04	28OCT04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LUPL0900	Lighting Drivpt & Cables Drivpt (TTA No. 05)	6	87d	0	28AUG04	04SEP05	11DEC04	10DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Ramps and Pavement																					
A3LURP0100	Trim Formation & Lay Subbase (TTA No. 06)	8	43d	0	14OCT04	24OCT04	05DEC04	13DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LURP0200	Road Pavement (TTA No. 06)	6	43d	0	24OCT04	02NOV05	14DEC04	22DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LURP0300	Construct Footpath (TTA No. 04)	24	23d	0	14OCT04	11NOV04	08DEC04	06DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LURP0400	Construct Footpath (TTA No. 06)	6	23d	0	13NOV04	18NOV04	09DEC04	15DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Road Lighting: Traffic Signs and Function																					
A3LURM0100	Apply Road Markings	2	23d	0	27NOV04	28NOV04	23DEC04	25DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LURM0200	Erred Signage	0	23d	0	20NOV04	25NOV04	11NOV04	08DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3LURM0300	Install Fencing, Fencing & etc	6	23d	0	20NOV04	25NOV04	16DEC04	22DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Ammetry Area																					
Drainage Systems																					
A3AMDP0100	Construct U-Channels	36	61d	0	02SEP04	14OCT04	18NOV04	26DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Utilities Works																					
A3AMAT0100	Water Point WP4-2 to Water Meter No. 3	18	51d	0	03SEP04	27SEP04	10NOV04	28NOV04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3AMAT0200	Water Point WP5-2 to Water Meter No. 6	10	51d	0	23SEP04	10OCT04	28NOV04	09DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
A3AMAT0300	Water Point WP6-2 to Water Meter No. 8	14	51d	0	11OCT04	26OCT04	11DEC04	28DEC04		Oct	2004	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	

Start date 10JUN04  
 Finish date 20OCT04  
 Due date 20SEP04  
 Duration 17OCT04  
 Page number 15A  
 Client Primavera Systems, Inc.  
 Contractor U-Gader  
 Progress bar Critical bar Summary bar Start milestone point Finish milestone point

TP37103 - Revised Works Programme - RP04  
 Leader - Wal Kee (C&T) Joint Venture



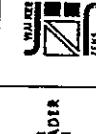
**Public Table No. 2**

**Section 4**

ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	Days	Min	Max											
<b>Foundations Construction</b>																						
A4PTFC0100 Excavation to Formation Level																						
A4PTFC0200 Subsoil Inspection by Structural Engineer		6	36d	0	28SEPT05	06OCT05	12NOV05	18NOV05	36													
A4PTFC0300 Boring		1	36d	0	07OCT05	07OCT05	18NOV05	18NOV05	36													
A4PTFC0400 Steel Fitting for Footing		1	36d	0	08OCT05	08OCT05	21NOV05	21NOV05	36													
A4PTFC0500 Formwork		4	36d	0	10OCT05	17OCT05	22NOV05	22NOV05	144													
A4PTFC0600 Concrete		1	36d	0	22OCT05	22OCT05	03DEC05	03DEC05	36													
A4PTFC0700 Steel Fitting for Walls & Columns		3	36d	0	24OCT05	26OCT05	08DEC05	07DEC05	108													
A4PTFC0800 Formwork		4	36d	0	27OCT05	31OCT05	08DEC05	12DEC05	144													
A4PTFC0900 Concrete		1	36d	0	01NOV05	01NOV05	13DEC05	13DEC05	36													
A4PTFC1000 Remove Formwork		6	36d	0	01NOV05	08NOV05	14DEC05	20DEC05	216													
A4PTFC1100 Backfilling		12	36d	0	06NOV05	22NOV05	21DEC05	04JAN06	360													
<b>Ground Floor Span Construction</b>																						
A4PTGF0100 Erect Propriety & Formwork		6	36d	0	23NOV05	28NOV05	08JAN06	12JAN06	36													
A4PTGF0200 Ground Slab Steel Fitting		3	36d	0	30NOV05	02DEC05	13JAN06	18JAN06	108													
A4PTGF0300 Formwork		2	36d	0	03DEC05	05DEC05	17JAN06	18JAN06	72													
A4PTGF0400 Concrete		1	36d	0	06DEC05	06DEC05	18JAN06	18JAN06	36													
A4PTGF0500 Erect Scaffolding		3	36d	0	07DEC05	08DEC05	20JAN06	23JAN06	108													
A4PTGF0600 Walls & Column Formwork		3	36d	0	10DEC05	13DEC05	24JAN06	26JAN06	108													
A4PTGF0700 Steel Fitting for Walls & Columns		3	36d	0	14DEC05	16DEC05	27JAN06	01FEB06	108													
A4PTGF0800 Formwork		3	36d	0	17DEC05	20DEC05	02FEB06	04FEB06	108													
A4PTGF0900 Concrete		1	36d	0	21DEC05	21DEC05	08FEB06	09FEB06	36													
A4PTGF1000 Remove Formwork & Propriety		12	36d	0	02JAN06	14JAN06	15FEB06	20FEB06	432													
<b>Mezzanine Floor Slab Construction</b>																						
A4PTMF0100 Erect Propriety & Formwork		6	36d	0	16AN06	21JAN06	01MAR06	07MAR06	36													
A4PTMF0200 Mezzanine Slab Steel Fitting		3	36d	0	23JAN06	25JAN06	08MAR06	10MAR06	108													
A4PTMF0300 Formwork		2	36d	0	26JAN06	27JAN06	11MAR06	13MAR06	72													
A4PTMF0400 Concrete		1	36d	0	28JAN06	28JAN06	14MAR06	14MAR06	36													
A4PTMF0500 Walls & Column Formwork		3	36d	0	01FEB06	03FEB06	15MAR06	17MAR06	108													
A4PTMF0600 Steel Fitting for Walls & Columns		3	36d	0	04FEB06	07FEB06	18MAR06	21MAR06	108													
A4PTMF0700 Formwork		3	36d	0	08FEB06	10FEB06	22MAR06	24MAR06	108													
A4PTMF0800 Concrete		1	36d	0	11FEB06	11FEB06	25MAR06	25MAR06	36													
A4PTMF0900 Remove Formwork & Propriety		12	36d	0	21FEB06	08MAR06	05APR06	18APR06	432													
<b>Upper Mezzanine Floor Slab Construction</b>																						
A4PTUF0100 Erect Propriety & Formwork		6	36d	0	07MAR06	13MAR06	18APR06	25APR06	36													
A4PTUF0200 Steel Fitting for Walls & Columns		3	36d	0	14MAR06	18MAR06	25APR06	26APR06	108													
A4PTUF0300 Formwork		2	36d	0	17MAR06	18MAR06	29APR06	02MAY06	72													
A4PTUF0400 Concrete		1	36d	0	20MAR06	20MAR06	03MAY06	03MAY06	36													
A4PTUF0500 Remove Formwork & Propriety		12	36d	0	28MAR06	12APR06	12MAY06	25MAY06	432													
<b>Structural Steelwork</b>																						
A4PTSS0100 Prepare & Submit Shop Drawings		30	33d	90	01SEP06 A	03SEP06	01SEP06	10NOV06	330													
A4PTSS0200 Engineer Approval of Shop Drawings		12	33d	0	03OCT06	17OCT06	11NOV06	24NOV06	396													
A4PTSS0300 Procurement of Structural Steel		120	33d	0	18OCT06	10MARCH07	10MARCH07	10APR06	420													
A4PTSS0400 Delivery of Structural Steel Materials		12	33d	0	11MARCH07	24MARCH07	01MAY07	02MAY07	120													
A4PTSS0500 Inspection & Testing		18	33d	0	25MARCH07	15APR07	05MAY07	25MAY07	180													
<b>Structural Steelwork</b>																						
A4PTSS0600 Inspection & Testing		18	33d	0	25MAY07	05JUN07	05JUN07	05JUN07	180													
<b>Structural Steelwork</b>																						
A4PTSS0700 Prepare & Submit Shop Drawings		30	33d	90	01SEP06 A	03SEP06	01SEP06	10NOV06	330													
A4PTSS0800 Engineer Approval of Shop Drawings		12	33d	0	03OCT06	17OCT06	11NOV06	24NOV06	396													
A4PTSS0900 Procurement of Structural Steel		120	33d	0	18OCT06	10MARCH07	10MARCH07	10APR06	420													
A4PTSS1000 Delivery of Structural Steel Materials		12	33d	0	11MARCH07	24MARCH07	01MAY07	02MAY07	120													
A4PTSS1100 Inspection & Testing		18	33d	0	25MARCH07	15APR07	05MAY07	25MAY07	180													

**Leader - Wal Kee (C&T) Joint Venture**

**TP3703 - Revised Works Programme - RP04**





ID	Description	Start Date	End Date	Duration	Float	Percent Complete	Entity Start	Entity Finish	Lead Time
A4PTSS0001	Fabrication & Painting of Steelworks	48	33d	0	17APR08	13JUN08	28MAY08	22JUL08	2008-04-17 ~ 2008-07-22
A4PTAB0200	Delivery of Prefabricated Steelworks	12	33d	0	14JUN08	27JUN08	24JUL08	05AUG08	2008-06-14 ~ 2008-07-27
A4PTSS0002	Erection of Steelworks	38	33d	0	28JUN08	08AUG08	07AUG08	16SEP08	2008-07-28 ~ 2008-08-08
A4PTAB0001	Touch Up Painting	12	33d	0	10AUG08	23AUG08	18SEP08	30SEP08	2008-08-10 ~ 2008-08-23
Architectural/Builder Works and Finishes									
A4PTAB0100	Solid Concrete Block Work Wall	35	36d	0	13AUG08	25MAY08	28MAY08	08JUL08	2008-07-13 ~ 2008-06-25
A4PTAB0200	Internal Wall Tile	24	36d	0	28MAY08	23JUN08	10JUL08	05AUG08	2008-05-28 ~ 2008-06-23
A4PTAB0300	External Wall Tile	24	36d	0	21SEP08	18OCT08	01NOV08	26NOV08	2008-09-21 ~ 2008-10-18
A4PTAB0400	Toilet Accessories Installation	24	36d	0	24JUN08	22JUL08	07AUG08	02SEP08	2008-06-24 ~ 2008-07-22
A4PTAB0500	Floor Tile	24	36d	0	24JUL08	19AUG08	04SEP08	30SEP08	2008-07-24 ~ 2008-08-19
A4PTAB0600	Roof Cladding	24	36d	0	2AUG08	20SEP08	02OCT08	31OCT08	2008-07-02 ~ 2008-09-20
A4PTAB0700	Metal Works & Ironmongery Installation	24	36d	0	20OCT08	17NOV08	28NOV08	20DEC08	2008-09-20 ~ 2008-11-17
Plumbing Works									
A4PTPL0100	Plumbing Works	24	36d	0	21AUG08	16SEP08	02OCT08	31OCT08	2008-07-21 ~ 2008-08-16
E & M Works									
A4PTEM0100	Electrical & Mechanical Installations	48	36d	0	18SEP08	14NOV08	01NOV08	26DEC08	2008-08-18 ~ 2008-10-14
<b>Section 5</b>									
Road L4									
Dredging Works									
ASRLDW0100	Dredge Exact Location of Marshells & Catchpits	1		100	28JUL04 A	28JUL04 A	28JUL04 A	28JUL04 A	I Decide Exact Location of Marshells & Catchpits
ASRLDW0150	Hand Over 2x2500 Pipe Uptream for Connection	0		100	20AUG05 A	20AUG05 A	20AUG05 A	20AUG05 A	Hand Over 2x2500 Pipe Uptream for Connection
ASRLDW1100	S413 + S407 (2x2500)	84		100	10SEP04 A	18JUL05 A	10SEP04 A	18JUL05 A	S413 - S407 (2x2500)
ASRLDW1200	F424 to F427 (In Zone ZQ)	31		100	10SEP04 A	12JUL05 A	10SEP04 A	12JUL05 A	F424 to F427 (In Zone ZQ)
ASRLDW1300	Outlet - S413 (2x2500)	31		100	22NOV04 A	25MAY05 A	22NOV04 A	25MAY05 A	Outlet - S413 (2x2500)
ASRLDW1400	S407 + S407A (2x2500)	30		100	08JUL05 A	18JUL05 A	16JUL05 A	03AUG05 A	S407 + S407A (2x2500)
ASRLDW1500	Connection Point WF431 to F428 (In Zone ZQ)	30		100	10DEC04 A	18JUL05 A	10DEC04 A	18JUL05 A	Connection Point to F431 to F428 (In Zone ZQ)
ASRLDW1600	S414/015a - S415 + S416	16		100	10JUL05 A	26APR05 A	10JUL05 A	26APR05 A	SL4-016a - S413 & gullies
ASRLDW1700	SL4-0026a - S417/28	12		100	01MAY05 A	17MAY05 A	01MAY05 A	17MAY05 A	SL4-0026a - S417/28
ASRLDW1750	CP910 - S412/23	12		100	21FEB05 A	1APR05 A	21FEB05 A	1APR05 A	CP910 - S412/23
ASRLDW1800	SL4-025a - S412a	12		100	01MAY05 A	03APR05 A	01MAY05 A	03APR05 A	SL4-025a - S412a
ASRLDW1900	SL4-015a - S407 (1800)	12		100	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	SL4-016b - S407 (1800)
ASRLDW1920	Patio Interceptor - S417/28 & S412	18		100	03MAY05 A	16JUL05 A	03MAY05 A	16JUL05 A	Patio Interceptor - SL017a & S412
ASRLDW1950	Connection Point - SL4-020a - S413	18		100	31JAN05 A	16MARCH05 A	31JAN05 A	16MARCH05 A	Connection Point - SL4-020a - S413
ASRLDW2340	B407A - Upstream	20		100	03MAY05 A	16JUL05 A	03MAY05 A	16JUL05 A	SL07A - Upstream
ASRLDW2500	SL4-025a - SL4-020a & gullies	18		100	07MAY05 A	17MAY05 A	07MAY05 A	17MAY05 A	SL4-025a - SL4-023a & gullies
ASRLDW2610	Connection Point to F425	-		100	10DEC04 A	08APR05 A	10DEC04 A	08APR05 A	Connection Point to F425
ASRLDW2620	SL4-022a - SL4-020a & gullies	18		100	08MAY05 A	28APR05 A	08MAY05 A	28APR05 A	SL4-022a - SL4-020a & gullies
ASRLDW2630	F427 - F428	13		100	10SEP04 A	03SEP05 A	10SEP04 A	03SEP05 A	F427 - F428
ASRLDW4400	F414a - F414	0	-3d	80	11APR05 A	26SEP05 A	11APR05 A	18AUG05	F414a - F414
ASRLDW4500	Connection Point - S404 + S408	16	-9d	80	08MAY05 A	30SEP05 A	09MAY05 A	01JUN05	Connection Point - S404 + S408
ASRLDW4600	CP914 & CP93 + SL4-020a	10		100	02JUL05 A	24AUG05 A	02JUL05 A	24AUG05 A	CP914 & CP93 + SL4-020a
ASRLDW5100	F424 - F422	12		100	06JUL05 A	28JUL05 A	06JUL05 A	28JUL05 A	F424 - F422
ASRLDW5110	F422 - F421	8		100	08APR05 A	28JUL05 A	08APR05 A	28JUL05 A	F422 - F421
ASRLDW5200	SL4-001b - S407 & gullies	30	-9d	80	27JUL05 A	17OCT05 A	27JUL05 A	18JUND	SL4-001b - S407 & gullies
ASRLDW5300	CP97 & CP98 - S408	10	-9d	80	14JUN05 A	10OCT05 A	14JUN05 A	13JUND	CP97 & CP98 - S408
ASRLDW5400	S408 - SL4-009a	10	-8d	40	23AUG05 A	05OCT05 A	23AUG05 A	13JUND	S408 - SL4-009a



Lanner - Wal Kei Joint Venture  
TP37/03 - Revised Works Programme - RP04

Init date	T01/04/08	Early bar
Inish date	2008/07/07	Program bar
Upto date	17/07/08	Critical bar
#E Number	T7A	Summary bar
o Primavera Systems, Inc.	◆	Start milestone point
o Primavera Systems, Inc.	◆	Finish milestone point



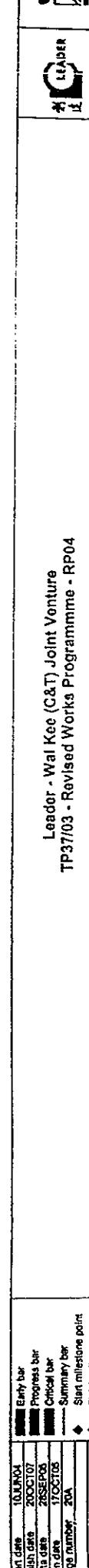
Lender - Wai Kee (C&T) Joint Venture  
RP37/03 : Revised Works Programme - RP04



Start milestone point  
Summary bar  
Critical bar  
Major date  
Minor date  
Page number



ACT ID:	Description	Ong Dur	Total Frob	Percent Complete	Early Start	Late Start	Rate						Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
							8AM	9AM	10AM	11AM	12PM																									
AECTUT070	CLP - 11kV Cable Connection (In ZG 1)	12	-12d	0	11NOV05	10JUN06	1MARS05	28SEPB05 A	1MARS05 A	1MARS05 A	1MARS05 A																									
AECTUT090	CLP - LV Cable (In ZJ, South)	17		100	20SEPB05 A	1MARS05 A	1MARS05 A	28SEPB05 A	1MARS05 A	1MARS05 A	15JUN06																									
AECTUT010	CLP - LV Cable (In ZJ, North)	11	-12d	0	20SECT05	07NOV05	02JUN05	15JUN06																												
AECTUT005	CLP - LV Cable (In ZG 1)	11	-12d	0	21OCT05	02JUN05	02JUN05	08JUN05																												
AECTUT010	CLP - LV Cable (In Remaining ZG 1)	11	-12d	0	28SEP05	12OCT05	28MAY05	08JUN05																												
AECTUT020	CLP - LV Cable Connection (In ZG 1)	12	-12d	0	01NOV05	10JUN06	10JUN05	10JUN05																												
AECTUT100	HKG - Lay 250 Gas Main (In ZJ) (Deleted)	35		100	01JUL05	01JUL05	01JUL05	01JUL05																												
AECTUT100	HKG - Lay 250 Gas Main (In ZG 1) (Deleted)	14		100	01JUL05	01JUL05	01JUL05	01JUL05																												
Public Lighting, Duct and Knob																																				
AECTP0100	Lay Kerb (In ZJ, South)	15	-11d	0	04OCT05	21OCT05	23MAY05	08JUN05																												
AECTP010	Lay Kerb (In ZJ, North)	10	-12d	0	01NOV05	18NOV05	16JUN05	27JUN05																												
AECTP0200	Lay Kerb (In ZG 1)	12	-13d	0	18NOV05	28NOV05	10JUN05	24JUN05																												
AECTP000	Lighting Ducts and Drains	24	-13d	0	01NOV05	11DEC05	10JUN05	09JUL05																												
AECTP000	Lighting Posts	12	-13d	0	14DEC05	29DEC05	11JUL05	23JUL05																												
Fence and Paving																																				
AECTP0100	Lay Cycle Track Pavement (In ZJ, South)	28	-10d	0	22OCT05	23NOV05	18JUL05	18JUL05																												
AECTP010	Lay Cycle Track Pavement (In ZJ, North)	18	-12d	0	19NOV05	09DEC05	28JUL05	19JUL05																												
AECTP0200	Lay Cycle Track Pavement (In ZG 1)	15	-12d	0	20NOV05	12OCT06	20JUL05	19JUL05																												
Reinforcement, Traffic Signs and Fencing																																				
AECTPA010	Apply Road Marking	4	-12d	0	01DEC05	17DECE05	20JUL05	23JUL05																												
AECTPA0200	Erect Signs	12	-11d	0	21NOV05	06DEC05	11JUL05	23JUL05																												
AECTPA0200	Construct Fences	21	-11d	0	18NOV05	13DEC05	28JUN05	23JUL05																												
Landscaping Highlights																																				
AECTA0100	Construct Planter Wall (In ZJ, South)	48	-11d	0	02OCT05	03OEC05	30MAY05	23JUL05																												
AECTA010	Construct Planter Wall (In ZJ, North)	18	-11d	0	19NOV05	08DEC05	04JUL05	23JUL05																												
AECTA0200	Construct Planter Wall (In ZG 1)	18	-12d	0	30NOV05	20DEC05	04JUL05	23JUL05																												
<strong>Station 7 Temporary Traffic Management Scheme</strong>																																				
TTA Implementation																																				
ATTMS050	Apply & Issue Xp for TTA Nos. 10 - 12	1		100	03SEPB04 A	21FEB05 A	09SEPB04 A	21FEB05 A																												
ATTMS060	Implement TTA No. 10	1		100	24FEB05 A	24FEB05 A	24FEB05 A	24FEB05 A																												
ATTMS0200	Implement TTA No. 11	1		100	11MAY05 A	11MAY05 A	11MAY05 A	11MAY05 A																												
ATTMS0300	Implement TTA No. 12	1		100	21MARS05 A	21MARS05 A	21MARS05 A	21MARS05 A																												
ATTMS0400	Apply & Issue Xp for TTA Nos. 48 - 51	71	-14d	98	07JUL05 A	07JUL05 A	07JUL05 A	07JUL05 A																												
ATTMS0500	Implement TTA No. 48 (NO/030E, 063A & 073)	1	-14d	0	07OCT05	07OCT05	15APR05	15APR05																												
ATTMS0600	Implement TTA No. 48 (NO/030E, 063A & 073)	1	-14d	0	31OCT05	31OCT05	08MAY05	09MAY05																												
ATTMS0700	Implement TTA No. 50 (NO/030E, 063A & 073)	1	-14d	0	29NOV05	28NOV05	08JUL05	08JUL05																												
ATTMS0800	Implement TTA No. 51 (NO/030E)	1	-14d	0	21DEC05	21DEC05	02JUL05	02JUL05																												
Landscaping Note No. 3																																				
ATLCS0100	Drilling (Two Drillholes)	16		100	23SEPB04 A	30SEPB04 A	23SEPB04 A	30SEPB04 A																												
ATLCS0200	Taking Up of Existing Armour to +2.5	3		100	125OCT04 A	27OCT04 A	25OCT04 A	27OCT04 A																												
ATLCS0200	Taking Up of Existing Underlayer to +2.5	2		100	30OCT04 A	01NOV04 A	30OCT04 A	01NOV04 A																												
ATLCS0200	Taking Up of Existing Rubble to +2.5	14		100	13NOV04 A	13NOV04 A	13NOV04 A	13NOV04 A																												
ATLCS0300	Dismantle Existing Outfall Units	8		100	21NOV04 A	20NOV04 A	21NOV04 A	21NOV04 A																												
ATLCS0400	Taking Up Existing 3200 D/s. Concrete Pipe	8	-15d	0	07NOV05	14NOV05	02JUL05	02JUL05																												
ATLCS0420	Taking Up of Existing Armour, Below +2.5	5	-15d	0	32NOV05	08JAN06	28MAY05	01JUL05																												



ACT ID	Description	Urg		Total	Percent		Early Start	Late Finish	Lead	Stat	Run													
		Dur	Float	Complete	Start	End																		
ATLCHS040	Taking Up of Existing Underlayer, Bottom +2.5	2	-15d2	0	07NOV05	08NOV05																		
ATLCHS050	Taking Up of Existing Rubble, Below 2.5	16	-15d8	0	18NOV05	02DEC06	10JUL05	27JUN05	16JUN05															
ATLCHS050	Pacing Lining Stone	23	-15d8	0	03DEC06	28DEC06	28JUN05	20JUL05	21JUL05															
ATLCHS060	Block Wall Construction	31	-15d8	0	29DEC06	23JAN06	21JUL05	20AUG05																
ATLCHS070	Backfill Rubble Behind	10	-15d4	0	23JAN06	08FEB06	21AUG05	30AUG05	30AUG05															
ATLCHS080	Reinforced 3200 Dia. Concrete Pipe	14	-15d8	0	06FEB06	22FEB06	31AUG05	13SEP05	13SEP05															
ATLCHS090	Fabrication of Box Culvert Outfalls	70	-10d4	0	11FEB06	22FEB06	08AUG05	08AUG05	08AUG05															
ATLCHS100	Install Box Culvert Outfalls	12	-10d4	0	23FEB06	03MAR06	07NOV05	07NOV05	07NOV05															
ATLCHS110	Install Remaining Blocks for Both Side Outfall	4	-10d4	0	07MAR06	10MARR06	19NOV05	22NOV05	22NOV05															
ATLCHS120	Reinforce Armour & Underlayer	10	-10d3	0	11MARD06	20MAR06	23NOV05	02DEC05	02DEC05															
Waterfront Protection																								
Pump House Construction																								
ATWPH0100	Construct Irrigation Pump House	48	-13d	0	22NOV05	18JAN06	07NOV05	03JAN06	03JAN06															
Draining Works																								
ATWPW0100	Digging Exact Location of Manholes & Catchpits	1		100	28JUL04 A	28JUL04 A	28JUL04 A	28JUL04 A	28JUL04 A															
ATWPW0200	\$708 - \$714	50	-9d4	80	13OCT04 A	24OCT05	07JUN05	19OCT04 A	19OCT04 A															
ATWPW0300	\$701 - \$708	48		100	13OCT04 A	14DEC04 A	14DEC04 A	14OCT04 A	14OCT04 A															
ATWPW0400	\$714 - Existing Box Culvert	30	-12d3	0	03FEB06	08MAR06	09SEP05	12OCT05	12OCT05															
ATWPW0500	F901 - F902 (TTA No. 10) Partially Aborted	18		100	25FEB05 A	24JUN05 A	28FEB05 A	24JUN05 A	24JUN05 A															
ATWPW0600	F902 - F903 (TTA No. 11) Aborted	34		100	10MAY05 A	24JUN05 A	10MAY05 A	24JUN05 A	24JUN05 A															
ATWPW0700	F903 - F904 (TTA No. 12)	16		100	08APR05 A	08MAY05 A	09MAY05 A	08APR05 A	09MAY05 A															
ATWPW0800	F901 - F902 (TTA No. 14) (VO03E)	6	-1d4	0	06OCT05	15OCT05	16APR05	22APR05	22APR05															
ATWPW0900	F901 - F902 (TTA No. 49) (VO03E)	12	-1d4	0	01NOV05	14NOV05	10MAY05	24MAY05	24MAY05															
ATWPW1000	F901 - F902 (TTA No. 50) (VO03E)	18	-1d4	0	30NOV05	20DEC05	09JUN05	30JUN05	30JUN05															
ATWPW1100	F902 - F903 (TTA No. 51) (VO03E)	24	-1d4	0	22DEC05	20JAN06	04JUL05	30JUL05	30JUL05															
ATWPW1200	F904 - Existing Manhole	28		100	04APR05 A	18JUN05 A	04APR05 A	18JUN05 A	18JUN05 A															
ATWPW1300	\$710 - \$773 - \$771 (VO073)	25	-13d	0	28SEP05	28OCT05	12SEPT05	13OCT05	13OCT05															
ATWPW1400	\$773 - Ext. Manhole (TTA No. 48) (VO073)	18	-13d	0	08OCT05	28OCT05	18APR05	07MAY05	07MAY05															
ATWPW1500	\$773 - Ext. Manhole (TTA No. 49) (VO073)	24	-125d	0	30NOV05	29DEC05	04JUL05	30JUL05	30JUL05															
ATWPW1600	CP102 - CP104 (In ZU)	20	-13d	0	28OCT05	21NOV05	14OCT05	05NOV05	05NOV05															
ATWPW1700	Ext. MH - MH-3d - F901 (VO073)	20	-7d	0	09DEC05	03JAN06	08SEP05	28SEP05	28SEP05															
ATWPW1800	\$716 - Existing Box Culvert	22	-13d1	0	23FEB05	20MAR05	11SEPT05	12OCT05	12OCT05															
ATWPW1900	22d Dia. Perforated Drain (In 2S. End + 200m)	28	-8d6	0	03NOV05	02DEC05	27JUL05	28AUG05	28AUG05															
ATWPW2000	22d Dia. Perforated Drain (In 2S. End + 400m)	28	-8d6	0	22NOV05	21DEC05	27JUL05	28AUG05	28AUG05															
ATWPW2100	22d Dia. Perforated Drain (In 2S. End + N. End)	12	-13d1	0	14APR06	27APR06	05NOV05	18NOV05	18NOV05															
ATWPW2200	22dH R & Catchpit with 2000l. Along Perimeter Wall	50	-9d6	0	04MAR05	03MAY05	11NOV05	12JUN06	12JUN06															
ATWPW2300	22dUC (In ZU)	24	-17d	0	25NOV05	22DEC05	28SEPT05	29OCT05	29OCT05															
ATWPW2400	300UC (In ZU)	25	-17d	0	23DEC05	23JAN06	28OCT05	28NOV05	28NOV05															
ATWPW2500	225dia. Perforated Drain (In ZU)	21	-4d6	0	22NOV05	18DEC05	27SEP05	22OCT05	22OCT05															
ATWPW2600	300 CUC (In ZU)	18	-3d6	0	20OCT05	18APR06	04DEC05	22OCT05	22OCT05															
ATWPW2700	0.1. Pipe & Fitting Delivery On Site	30	-4d6	45	21APR05 A	18OCT05	08SEP05 A	08OCT05	08OCT05															
ATWPW2800	Order Additional Valve & Bend (VO05)	78	-12d6	22	08SEP05 A	03DEC05	08SEP05 A	08SEP05 A	08SEP05 A															
ATWPW2900	Watermain - Lay Out Main (TTA No. 10) Aborted	10		100	10APR05 A	24JUN05 A	14APR05 A	24JUN05 A	24JUN05 A															
Unity Walk																								
ATWPW3000	O.I. Pipe & Fitting Delivery On Site	1700																						
ATWPW3100	Order Additional Valve & Bend (VO05)	21A																						
ATWPW3200	ATPW3200	TP37/03 - Revised Works Programme • RP04																						

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ID	Description	Cust.	Cust. Address	Project	Start Date	End Date	Duration	Due		Actual		Due		Actual		Due		Actual		Due					
								Start	Finish																
ATWPF0100	Watermain - Lay Salt Main (TTA No. 11) Aborted	34	100 JUN05 A	24 JUN05 A	-144d	0 17 OCT05	28 OCT05	23 APR05	0 15 NOV05	28 MAY05	07 JUN05	07 JUN05	0 29 JUN05	07 JUN05	0 20 SEP05	07 OCT05	0 23 NOV05	07 DEC05	0 20 JAN06	07 FEB06	0 23 MAR06	07 APR06			
ATWPF0200	Watermain - SW Main (TTA No. 48) (VO003A)	12	-144d	0 17 OCT05	28 OCT05	23 APR05	0 15 NOV05	28 MAY05	0 30 NOV05	20 DEC05	0 1 JUL06	30 JUL06	0 24 JUL06 A	08 AUG06 A	0 31 JUL06	21 AUG06	0 24 AUG06 A	07 SEP06	0 31 SEP06	21 OCT06	0 24 OCT06 A	07 NOV06			
ATWPF0300	Watermain - SW Main (TTA No. 49) (VO003A)	12	-144d	0 17 OCT05	28 OCT05	23 APR05	0 15 NOV05	28 MAY05	0 30 NOV05	20 DEC05	0 1 JUL06	30 JUL06	0 24 JUL06 A	08 AUG06 A	0 31 JUL06	21 AUG06	0 24 AUG06 A	07 SEP06	0 31 SEP06	21 OCT06	0 24 OCT06 A	07 NOV06			
ATWPF0400	Watermain - SW Main (TTA No. 50) (VO003A)	24	-120d	0 31 OCT05	20 DEC05	0 1 JUL06	30 JUL06	0 24 AUG06 A	0 25 SEP05	27 OCT05	27 JUN05	0 25 JUL05	25 JUL05	0 27 JUL05	27 AUG05	0 28 JUL05	28 AUG05	0 29 JUL05	29 AUG05	0 29 JUL05	29 AUG05	0 29 JUL05	29 AUG05		
ATWPF0500	CLP - Lay LV Cable	12	-50d	0 06 AUG05 A	0 25 SEP05	0 28 JUL05 A	0 29 JUL05	0 29 JUL05	0 07 AUG05	0 29 AUG05	0 07 SEP05	0 29 SEP05	0 07 OCT05	0 29 OCT05	0 07 NOV05	0 29 NOV05	0 07 DEC05	0 29 DEC05	0 07 JAN06	0 29 JAN06	0 07 FEB06	0 29 FEB06			
ATWPF0600	PCCW - Lay Cable	55	-48d	0 22 NOV05	24 JAN06	0 31 AUG05 A	0 24 JAN06 A	0 24 JAN06 A	0 24 NOV05																
ATWPF0700	PCCW - Lay Cable (Landscape Node P3)	12	-76d	0 14 APR06	27 APR06	0 08 JUN06 A	0 14 APR06	0 14 APR06	0 14 APR06	0 21 APR06	0 10 JUN06	0 21 APR06													
ATWPF0800	Watermain Warrant to WSD (VO006)	18	-68d	0 31 OCT05	18 NOV05	0 11 JUL05	30 JUL05	0 30 JUL05	0 11 JUL05																
ATWPF0900	Relocation of Fire Hydrant in ZU by WSD (VO006)	24	-78d	0 25 SEP05	27 OCT05	0 27 JUL05	27 JUL05	0 25 JUL05	0 24 OCT05	0 28 JUL05	0 24 OCT05														
ATWPF1000	HKG - 315kV Diversion at SP Road (Additional)	15	-100	0 11 JUL05 A	27 JUL05 A	0 11 JUL05 A																			
ATWPF1100	CLP - 132kV Diversion at SP Road (Additional)	56	-100	0 06 AUG05 A	18 AUG05 A	0 100	0 06 AUG05 A	0 100	0 06 AUG05 A																
Public Lighting Duct and Knob																									
ATWPF0100	Public Lighting (In ZU)	60	-42d	0 05 DEC05	21 FEB06	0 21 OCT05	31 OCT05	0 31 DEC05	0 06 FEB06	0 28 FEB06	0 31 OCT05	0 10 JAN06	0 06 FEB06	0 21 FEB06											
ATWPF0200	Public Lighting (In ZU)	60	-88d	0 15 FEB06	0 28 FEB06	0 31 OCT05	0 10 JAN06	0 10 JAN06	0 15 FEB06	0 22 MAR06	0 02 APR06	0 07 FEB06													
Roads and Pavings																									
ATWPF0100	Lay Paving Block (In ZU)	30	-10d	0 22 FEB06	0 28 MAR06	0 02 APR06	0 07 MAR06	0 13 MAR06	0 02 APR06	0 08 APR06	0 02 APR06	0 17 MAR06	0 02 APR06	0 02 APR06											
ATWPF0200	Lay Paving Block (In ZU)	60	-88d	0 28 MAR06	0 05 APR06	0 08 APR06	0 05 APR06	0 08 APR06																	
Floodlit Works																									
ATWPF0100	Floodlit Works (In ZU)	30	-17d	0 07 FEB06	0 13 MAR06	0 18 MAR06	0 18 MAR06	0 18 MAR06	0 07 FEB06	0 14 MAR06	0 21 MAR06	0 02 MAR06	0 08 MAR06	0 15 MAR06											
ATWPF0200	Floodlit Works (In ZS)	55	-68d	0 27 MAR06	0 02 APR06	0 09 MAR06	0 09 MAR06	0 09 MAR06	0 27 MAR06	0 06 MAR06	0 13 MAR06	0 02 MAR06	0 09 MAR06	0 16 MAR06	0 16 MAR06										
E & M Works																									
ATWPF0100	Testing & Commissioning	30	-9d	0 08 MAY06	12 JUN06	0 10 MAY06	12 JUN06	0 12 JUN06	0 08 MAY06	0 14 JUN06	0 16 JUN06	0 02 MAR06	0 08 MAY06	0 14 JUN06	0 14 JUN06	0 14 JUN06									
ATWPF0200	Testing & Commissioning	30	-45d	0 04 MAY06	0 10 JUN06	0 01 MAY06	0 10 JUN06	0 10 JUN06	0 04 MAY06	0 09 JUN06	0 15 JUN06	0 01 MAR06	0 04 MAY06	0 10 JUN06	0 10 JUN06	0 10 JUN06									
ATWPF0300	E&M Road Hauling	12	-91d	0 09 MAY06	0 10 JUN06	0 05 MAY06	0 10 JUN06	0 10 JUN06	0 09 MAY06	0 11 JUN06	0 18 JUN06	0 01 MAR06	0 09 MAY06	0 10 JUN06	0 10 JUN06	0 10 JUN06									
Landscaping & Irrigation																									
ATWPF0100	Plaster Wall (In ZS, South End - 10dm)	20	-83d	0 10 OCT05	0 28 FEB06	0 04 JUN06	0 04 JUN06	0 04 JUN06	0 10 OCT05	0 15 MAR06	0 02 APR06	0 02 JUN06	0 02 JUN06												
ATWPF0200	Plaster Wall (In ZS, 100 - 200m)	20	-82d	0 05 MAR06	0 05 MAR06	0 02 JUN06	0 02 JUN06	0 02 JUN06	0 05 MAR06	0 10 MAR06	0 10 MAR06	0 02 JUN06	0 05 MAR06	0 05 MAR06	0 05 MAR06										
ATWPF0300	Plaster Wall (In ZS, 200 - 300m)	20	-96d	0 02 MAR06	0 02 MAR06	0 02 JUN06	0 02 JUN06	0 02 JUN06	0 02 MAR06	0 05 MAR06	0 05 MAR06	0 02 JUN06	0 02 MAR06	0 05 MAR06	0 05 MAR06										
ATWPF0400	Plaster Wall (In ZS, 300 - 400m)	20	-88d	0 00 MAR06	0 00 MAR06	0 02 JUN06	0 02 JUN06	0 02 JUN06	0 00 MAR06	0 05 MAR06	0 05 MAR06	0 02 JUN06	0 00 MAR06	0 05 MAR06	0 05 MAR06										
ATWPF0500	Plaster Wall (In ZS, 400 - North End)	20	-133d	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	
ATWPF0600	Plaster Wall (In ZS)	56	-78d	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06	0 01 MAR06
ATWPF0700	Fill Rock to Plaster Wall Formation (VO006)	30	-98d	0 01 JUN06	0 10 JUN06	0 08 JUN06	0 08 JUN06	0 08 JUN06	0 01 JUN06	0 05 MAR06	0 10 MAR06	0 02 APR06	0 02 JUN06	0 02 JUN06	0 02 JUN06										
ATWPF0800	Construct Curve Tents (In ZU)	50	-11d	0 08 MAR06	0 26 MAR06	0 08 APR06	0 08 APR06	0 08 APR06	0 08 MAR06	0 15 MAR06	0 15 MAR06	0 08 APR06	0 08 MAR06	0 08 APR06	0 08 APR06	0 08 APR06									
ATWPF0900	Construct Perpolia (In ZU)	47	-11d	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05	0 09 DEC05
ATWPF1000	Construct Perpolia (In ZS)	24	-8d	0 21 JAN06	0 26 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06	0 21 JAN06
ATWPF1100	Water Point WP2-4 to 28-6 (In ZU)	30	-8d	0 03 MAR06	0 03 MAR06	0 03 MAR06	0 03 MAR06	0 03 MAR																	

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Act ID	Description	Ong Total Dur	Percent Complete	Early Start	Late Finish	2009											
						JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
ABWPOW1000	225 Perforated Drain (In ZK)	19	180	0	01MAY06	30MAY06	21APR06										
ABWPOW2000	225 Perforated Drain (In ZK)	18	280	0	11MAY06	02AUG06	17APR06	08MAY06									
ABWPOW100	225 Perforated Drain (In ZK)	6	370	0	08FEB05	10FEB05	21MAY05	03APR05									
ABWPOW200	225 Perforated Drain (In ZK)	5	460	0	08FEB06	08FEB06	28MAY06	03APR06									
ABWPOW2500	225 Perforated Drain (ZL - Node P + South)	24	18d	0	08FEB06	07MAY06	01MAY06										
ABWPOW2500	225 Perforated Drain (ZL - Node P + South)	18	18d	0	23OCT05	14JAN06	15JAN06	04FEB06									
ABWPOW1000	Remove Existing 3200 Drainpipe	30	100	28APR05 A	01JUN05 A	01JUN05 A	28APR05 A	01JUN05 A									
<b>Utility Works</b>																	
ABWPUT000	D.I. Pipe & Fittings Delivery On Site	30	-28d	0	01OCT05	30OCT05	03SEP05	04OCT05									
ABWPUT100	Watermain - Lay Salt Main	18	-58d	0	18JUN05	08DEC05	08SEP05	27SEP05									
ABWPUT000	PCCW - Lay Cable (In ZK)	48	-17d	0	27JAN06	28MAY06	07JAN06	06MAY06									
ABWPUT000	PCCW - Lay Cable (In ZK)	22	-17d	0	15APR06	11MAY06	25MAY06	20APR06									
ABWPUT000	PCCW - Lay Cable (In ZK)	10	-17d	0	03APR06	14APR06	14APR06	14APR06									
ABWPUT100	PCCW - Lay Cable (In ZK)	6	-17d	0	27MAY06	01APR06	07MAY06	13MAY06									
ABWPUT100	PCCW - Lay Cable (In ZK, ZL, ZL)	44	32d	0	23DEC05	16FEB06	05FEB06	25MAY06									
ABWPUT100	HKCG - 32GRP Riser	3	28d	0	06JAN06	11JAN06	15FEB06	15FEB06									
ABWPUT100	HKCG - 50 GRP Riser	5	28d	0	12JAN06	17JAN06	16FEB06	21FEB06									
ABWPUT100	HKCG - 63 GRP Riser	3	28d	0	18JAN06	20JAN06	22FEB06	24FEB06									
<b>Public Limiting</b>																	
ABWPLK000	Direct and Knob	60	84d	0	14MAY06	24MAY06	24MAY06	24MAY06									
ABWPLK000	Public Lighting Ducts & Drains Along Promenade	24	80d	0	25MAY06	22JUN06	03SEP06	02OCT06									
ABWPLK000	Install Public Lighting	48	25d	0	08JUL06	02SEP06	07AUG06	02OCT06									
ABWPLK000	Lay Pavings Block (In ZK)	24	25d	0	16JUN06	14JUL06	17JUL06	12AUG06									
ABWPLK000	Lay Pavings Block (In ZK)	12	27d	0	03MAY06	12JUN06	03JUL06	15JUL06									
ABWPLK000	Lay Pavings Block (In ZK)	12	27d	0	18MAY06	29MAY06	17JUN06	30JUN06									
ABWPLK000	Lay Pavings Block (In ZK, ZL, ZL)	80	32d	0	03FEB06	09MAY06	13MAY06	14JUN06									
<b>Finishing Works</b>																	
E & M Works	Finishing Works	80	85d	0	08JUN06	1BAUG06	2BAUG06	08NOV06									
ABWPEM000	Irrigation System	50	117d	0	22APR06	21JUN06	09SEP06	08NOV06									
ABWPEM100	E & M Works	30	86d	0	23JUN06	28JUN06	03OCT06	03OCT06									
<b>Forming &amp; Shoring</b>																	
ABWPSH000	Forming & Shoring	30	25d	0	04SEP05	08OCT05	08OCT05	08NOV05									
ABWPSH000	Forming & Shoring	21	25d	0	15SEP05	02JAN06	14OCT05	09NOV05									
<b>Structural Formwork's</b>																	
ABWPHF0100	Plaster Wall (In ZK)	63	0	20	22AUG05 A	06MAY06	22AUG05 A	08MAY06									
ABWPHF0200	Plaster Wall (In ZK)	28	28d	0	09FEB06	13MAY06	14MAY06	15APR06									
ABWPHF000	Plaster Wall (In ZK)	13	28d	0	23JAN06	08FEB06	27FEB06	13MAY06									
ABWPHF040	Plaster Wall (In ZK)	8	27d	0	23JAN06	02FEB06	25FEB06	09MAY06									
ABWPHF060	Plaster Wall (ZL - Landscaping Node 1 South)	40	18d	0	19FEB05	07FEB06	11JAN06	28FEB06									
ABWPHF050	Plaster Wall (ZL, ZL, ZL)	90	18d	0	20JUL05 A	02JUL06	02JUL05 A	12JAN06									
ABWPHF060	Fil Rock to Plaster Wall Formation (Node 06)	60	25d	0	10AUG05 A	24NOV05	10AUG05 A	23DEC05									
ABWPHF0700	Plaster Wall along Stewart (In ZK)	47	25d	0	03MAY06	27APR06	27APR06	27MAY06									
ABWPHF080	Plaster Wall along Stewart (In ZK)	22	25d	0	23MAY06	17JUN06	22JUN06	18JUL06									
ABWPHF090	Plaster Wall along Stewart (In ZK)	12	25d	0	08MAY06	22MAY06	08JUN06	21JUN06									
ABWPHF100	Plaster Wall along Stewart (In ZK)	6	25d	0	28APR06	08MAY06	07JUN06										
<b>Plaster Wall</b>																	
Start date	10APR04																
Finish date	20OCT05																
Run date	26SEP05																
Page Number	10OCT05																
	25A																

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Act	Ref	Description	Out Dur	Total Dur	Percent Complete	Early Start	Finish	Last	
ASWPH1100		Perimeter Wall along Seawall (in Z1/Z4, Z1)	80	256	0	01MAY06	02MAY06	01MAY06	
ASWPH1200		Contractor Perpend (3 nos.)	72	680	0	1JUN06	08JUN06	05JUN06	
ASWPH1300		Water Point WP24-4 to 24-1	15	210	0	03MAY06	18APR06	13MAY06	
ASWPH1400		Water Point WP25-3 to 25-1	18	180	0	03MAY06	21APR06	22MAY06	
ASWPH1500		Water Point WP21-3 to 21-1	12	280	0	03APR06	18APR06	08MAY06	
ASWPH1600		Water Point WP20-3 to 20-1	21	370	0	02FEB06	15MAY06	28APR06	
ASWPH1700		Water Point WP18-4 to 18-1	15	180	0	08MAY06	24MAY06	15APR06	
ASWPH1800		Water Point WP18-3 to 18-2	12	210	0	08MAY06	21MAY06	01APR06	
ASWPH1900		Water Point WP17-5 to 17-1	18	180	0	16JAN06	07FEB06	06FEB06	
ASWPH2000		Water Point WP16-3 to 16-1	12	220	0	04JAN06	28JUL06	25SEP06	
ASWPH2200		ASD's Contractor Works	303	-574	0	26SEP06	27SEP06	22JUL06	
		Section 3							
		Public Landings Step - Nuttum Works							
ARSHAD100		Propose Monitoring Plan for DSD's Submarine Pipe	30	100	01SEP04 A	01SEP04 A	01SEP04 A	Propose Monitoring Plan for DSD's Submarine Pipe	
ARSHAD200		Engineer & DSD Approval of Monitoring Plan	38	100	01SEP04 A	01MAY06 A	01MAY06 A	Engineer & DSD Approval of Monitoring Plan	
ARSHAD300		Setup Monitoring for DSD's Submarine Pipeline	30	100	10MAY06 A	14MAY06 A	14MAY06 A	Setup Monitoring for DSD's Submarine Pipeline	
ARSHAD400		Drilling & CPPT	30	100	11SEP04 A	11OCT04 A	11OCT04 A	Drilling & CPPT	
ARSHAD500		Taking Up of Existing Armour to +2.5	2	100	08NOV04 A	08NOV04 A	08NOV04 A	Taking Up of Existing Armour to +2.5	
ARSHAD600		Taking Up of Existing Underlayer to +2.5	3	100	11NOV04 A	13NOV04 A	11NOV04 A	Taking Up of Existing Underlayer to +2.5	
ARSHAD700		Taking Up of Existing Rubble to +2.5	3	100	11NOV04 A	19NOV04 A	17NOV04 A	Taking Up of Existing Rubble to +2.5	
ARSHAD800		Taking Up of Existing Armour Below +2.5	3	100	24NOV04 A	27NOV04 A	27NOV04 A	Taking Up of Existing Armour Below +2.5	
ARSHAD900		Taking Up of Existing Rubble Below +2.5	3	100	03DEC04 A	08DEC04 A	08DEC04 A	Taking Up of Existing Rubble Below +2.5	
ARSHAD1000		Taking Up of Rubble at Seawall Foundation	5	100	13DEC04 A	18DEC04 A	18DEC04 A	Taking Up of Rubble at Seawall Foundation	
ARSHAD1100		Dredging of Marine Mud	13	100	16FEB05 A	11MAY06 A	16FEB05 A	Taking Up of Rubble at Seawall Foundation	
ARSHAD1200		Placing of Rubble Foundation	20	100	18MAY05 A	24MAY05 A	18MAY05 A	Dredging of Marine Mud	
ARSHAD1300		Placing Lining Stone	15	100	25MAY05 A	18APR05 A	26MAY05 A	Placing of Rubble Foundation	
ARSHAD1400		Block Wall Construction 2 Layers from Bottom (N)	23	100	20APR05 A	24SEP05	20APR05 A	Placing Lining Stone	
ARSHAD1500		Block Wall Construction 2 Layers from Bottom (S)	6	100	01MAY05 A	31MAY05 A	01MAY05 A	Block Wall Construction 2 Layers from Bottom (N)	
ARSHAD1600		Block Wall Construction to Top Level	5	100	17JUL05 A	24AUG05 A	17JUL05 A	Block Wall Construction 2 Layers from Bottom (S)	
ARSHAD1700		Placing of Bermstones	50	100	20AUG05 A	28AUG05 A	28AUG05 A	Block Wall Construction to Top Level	
ARSHAD1800		Placing of Bermstones	3	100	29AUG05 A	11SEP05 A	29AUG05 A	Placing of Bermstones	
ARSHAD1900		Backfill the Rubble Behind	14	201d	80	12SEP05 A	12SEP05	12SEP05 A	Placing of Bermstones
ARSHAD2000		Backfill the G200 Rockfill Behind	4	201d	0	03SEP05	03OCT05	23APR06	Backfill the Rubble Behind
		Land Works							
ARSLW100		Submit Shop Drawings & Calculation of Root Cover	30	100	01JUL05 A	15SEP05 A	15SEP05 A	Submit Shop Drawings & Calculation of Root Cover	
ARSLW200		Engineer Approval of Shop Drawings & Calculation	30	56d	90	01SEP05 A	10OCT05	16SEP05 A	Engineer Approval of Shop Drawings & Calculation
ARSLW300		Procurement of Pyramid Skylight	120	88d	0	01DEC05	04MAR06	23JUN06	Procurement of Pyramid Skylight
ARSLW400		Procurement of Structural Steel	120	58d	0	02OCT05	04MAR06	10OEC05	Procurement of Structural Steel
ARSLW500		Delivery of Pyramid Skylight	30	86d	0	06MAR06	10APR06	17JUN06	Delivery of Pyramid Skylight
ARSLW600		Delivery of Structural Steel	30	58d	0	06MAR06	10APR06	12MAY06	Delivery of Structural Steel
ARSLW700		Inspection & Testing	30	56d	0	11APR06	16MAY06	17JUN06	Inspection & Testing
ARSLW800		Fabrication & Painting of Steel Works	48	56d	0	17MAY06	13JUL06	24JUL06	Fabrication & Painting of Steel Works
ARSLW900		Concrete Casting with 10 tonne Bollard & Handrail	30	170d	0	04OCT06	08NOV06	27APR06	Concrete Casting with 10 tonne Bollard & Handrail
ARSLW1000		Concrete Shutter Column	24	18d	0	23JUN06	21FEB06	03JUN06	Concrete Shutter Column
ARSLW1200		Concrete Shutter Column	30	14d	0	22FEB06	20MAY06	14JUN06	Concrete Shutter Column
		Timeline							
Start date		20OCT07							
Finish date		25SEP08							
Due date									
Run date									
Page number	26A								
		Early bar							
		Progress bar							
		Critical Bar							
		Summary Bar							
		Start milestone point							
		Finish milestone point							

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Act ID	Description	Crnt Dur	Total Frial	Percent Complete	Early Start	Early Finish	Late Finish								
							JUN	JUL	AUG	SEP	OCT	NOV	DEC		
A8LSUW100	Construct Shutter Roof	24	55d	0	14JUL08	10AUG08	18SEP08	18OCT08	15MAY09	21JUN09	27JUL09	31AUG09	13SEPT09		
A8LSUW100	Plaster Uplifting	8	55d	0	11AUG08	18AUG08	09SEP08	17OCT08	25OCT08	01NOV09	07DEC09	28DEC09	27FEB09		
A8LSUW100	Rubber, Step & Hand Step Fender	18	55d	0	21AUG08	09SEP08	28OCT08	16NOV08	07DEC08	07DEC08	07DEC09	28DEC09	27FEB09		
A8LSUW100	Surfaced Mounted Sheets	18	55d	0	11SEP08	30SEP08	17NOV08	07DEC08	07DEC08	07DEC09	07DEC09	28DEC09	27FEB09		
A8LSUW100	Construct Infill Concrete Paving	18	55d	0	05OCT08	23OCT08	08DEC08	28DEC08	28DEC08	28DEC09	28DEC09	28DEC09	27FEB09		
<b>Section 10 - North Site</b>															
B9RWHW000	Demolish HY8602 C&T Office	1	107d	0	05MAY08	05MAY08	11JUL08	11JUL08	04AUG08	04AUG08	04SEP08	04SEP08	04SEP08	04SEP08	
B9RWHW000	Demolish HY8602 C&T Office (P1)	30	107d	0	23MAY08	29APR08	02AUG08	02AUG08	04SEP08	04SEP08	04SEP08	04SEP08	04SEP08	04SEP08	
B9RWHW000	Demolish HY8602 Contractor's Office	1	107d	100	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	21MAY05 A	21MAY05 A	02OCT06	02OCT06	02OCT06	02OCT06	
B9RWHW000	Demolish HY8602 Contractor's Office (P1)	30	107d	100	21MAY05 A	21MAY05 A	02MAY08	02MAY08	01JUL08	01JUL08	15NOV08	15NOV08	15NOV08	15NOV08	
B9RWHW000	Remove Run-in & Reinstate F/P/C/T(P1)	1	129d	0	05MAY08	0115JUN08	25OCT08	25OCT08	15NOV08	15NOV08	04SEP08	04SEP08	04SEP08	04SEP08	
B9RWHW000	Remove Run-in & Reinstate F/P/C/T(P1)	16	111d	0	15JUN08	02MAY08	02MAY08	02MAY08	14JUN08	14JUN08	20SEP08	20SEP08	19OCT08	19OCT08	
B9RWHW000	Demolish Existing Paving	1	107d	0	05MAY08	05MAY08	14JUN08	14JUN08	07JUL08	07JUL08	16NOV08	16NOV08	18NOV08	18NOV08	
B9RWHW000	Demolish Existing Paving (P1)	18	107d	0	24MAY08	24MAY08	20SEP08	20SEP08	19OCT08	19OCT08	01NOV09	01NOV09	01NOV09	01NOV09	
B9RWHW000	El to Fencing Around LO Site	1	111d	0	07JUL08	07JUL08	07JUL08	07JUL08	12NOV08	12NOV08	28DEC08	28DEC08	28DEC08	28DEC08	
B9RWHW000	Fencing Around LO Site (P1)	18	111d	0	28JUL08	18AUG08	09DEC08	09DEC08	28DEC08	28DEC08	28DEC08	28DEC08	28DEC08	28DEC08	
<b>Section 11 - North Site</b>															
<b>Area BA1, BA11B &amp; BA14 :-</b>															
B1AASL0100	Soil Mix (Section 6)	24	-132d	0	08FEB08	07MAR08	30AUG08	27SEP08	27SEP08	27SEP08	27SEP08	27SEP08	27SEP08	27SEP08	
B1AASL0200	Soil Mix (m 25, South End - 100m)	10	-47d	0	03DEC08	14DEC08	13SEP08	21SEP08	21SEP08	21SEP08	21SEP08	21SEP08	21SEP08	21SEP08	
B1AASL0200	Soil Mix (m 25, 100 - 200m)	10	-86d	0	11JAN08	21JAN08	13SEP08	21SEP08	21SEP08	21SEP08	21SEP08	21SEP08	21SEP08	21SEP08	
B1AASL0200	Soil Mix (m 25, 200 - 300m)	10	-86d	0	11JAN08	21JAN08	02NOV08	12NOV08	12NOV08	12NOV08	12NOV08	12NOV08	12NOV08	12NOV08	
B1AASL0200	Soil Mix (m 25, 300 - 400m)	10	-73d	0	28JUN08	10FEB08	02NOV08	12NOV08	12NOV08	12NOV08	12NOV08	12NOV08	12NOV08	12NOV08	
B1AASL0200	Soil Mix (m 25, 400 - North End)	10	-133d	0	17MAY08	07MAY08	07DEC08	07DEC08	07DEC08	07DEC08	07DEC08	07DEC08	07DEC08	07DEC08	
B1AASL0200	Soil Mix (m 2L, 300m)	30	-73d	0	25JUN08	02MAR08	24OCT08	29NOV08	29NOV08	29NOV08	29NOV08	29NOV08	29NOV08	29NOV08	
B1AASL0200	Planting Works	90	-133d	0	06MAY08	21JUN08	21SEP05	12JAN08	12JAN08	12JAN08	12JAN08	12JAN08	12JAN08	12JAN08	
B1AASL0200	Groundcovers Works	50	-133d	0	28MAY08	27JUL08	19OCT05	19OCT05	19OCT05	19OCT05	19OCT05	19OCT05	19OCT05	19OCT05	
B1AASL1000	Root Barrier (25, 100m - 200m) (V0065A)	12	-76d	0	03DEC08	14DEC08	30AUG08	12SEP05	12SEP05	12SEP05	12SEP05	12SEP05	12SEP05	12SEP05	
B1AASL1100	Root Barrier (25, 200m - 300m) (V0065A)	12	-54d	0	22DEC08	08JAN08	19OCT05	01NOV05	01NOV05	01NOV05	01NOV05	01NOV05	01NOV05	01NOV05	
B1AASL1200	Root Barrier (25, 300m - 400m) (V0065A)	12	-53d	0	22DEC08	08JAN08	19OCT05	01NOV05	01NOV05	01NOV05	01NOV05	01NOV05	01NOV05	01NOV05	
B1AASL1300	Root Barrier (25, 400m - N, End) (V0065A)	2	-116d	0	28APR08	28APR08	09DEC05	09DEC05	09DEC05	09DEC05	09DEC05	09DEC05	09DEC05	09DEC05	
<b>Section 12 - North Site</b>															
<b>Area SA7, SA10, SA11A, SA12 &amp; SA13</b>															
B2ABSL0100	Landscape Schmanks	47	16d	0	22APR08	17JUN08	15MAY08	10JUL08	10JUL08	10JUL08	10JUL08	10JUL08	10JUL08	10JUL08	
B2ABSL0200	Soil Mix (m 2Z, 35cm)	24	26d	0	18APR08	17MAY08	20JUN08	20JUN08	20JUN08	20JUN08	20JUN08	20JUN08	20JUN08	20JUN08	
B2ABSL0300	Soil Mix (m 2Z, 45m)	12	37d	0	24MAY08	07APR08	08MAY08	08MAY08	08MAY08	08MAY08	08MAY08	08MAY08	08MAY08	08MAY08	
B2ABSL0400	Soil Mix (m 2Z, 5cm)	7	37d	0	18APR08	23MAY08	28APR08	28APR08	28APR08	28APR08	28APR08	28APR08	28APR08	28APR08	
B2ABSL0500	Soil Mix (ZL, 1, Z)	30	16d	0	26MAY08	28APR08	17APR08	17APR08	17APR08	17APR08	17APR08	17APR08	17APR08	17APR08	
B2ABSL0600	Soil Mix (ZL, ZL, Z)	71	16d	0	06FEB08	05MAY08	27FEB08	27FEB08	27FEB08	27FEB08	27FEB08	27FEB08	27FEB08	27FEB08	
B2ABSL0700	Planting Works	80	16d	0	04MAY08	01JUL08	23MAY08	03SEP08	03SEP08	03SEP08	03SEP08	03SEP08	03SEP08	03SEP08	
B2ABSL0800	Groundcovers Works	50	16d	0	18APR08	17OCT08	07SEP08	07SEP08	07SEP08	07SEP08	07SEP08	07SEP08	07SEP08	07SEP08	
B2ABSL0900	Root Barrier (m 2Z) (V0065A)	12	22d	0	16JAN08	28JAN08	13FEB08	13FEB08	13FEB08	13FEB08	13FEB08	13FEB08	13FEB08	13FEB08	
B2ABSL1000	Root Barrier (m 2Z) (V0065)	2	34d	0	31MAY08	01APR08	12MAY08	12MAY08	12MAY08	12MAY08	12MAY08	12MAY08	12MAY08	12MAY08	
<b>Section 13 - North Site</b>															
Start date	10JUN08		Finish date	20OCT07		Run date	21SEP05		Milestone	21OCT05		Start date	17OCT05		Leader
Due date			Due date			Due date			Due date			Due date			TP37/03 - Revised Works Programme - RP04
Page number	27A		Page number			Page number			Page number			Page number			c. Primavera Systems, Inc.
															TP37/03 - Revised Works Programme - RP04

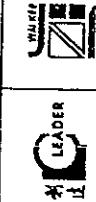


Wal Kee  
C&T  
Joint Venture  
TP37/03 - Revised Works Programme - RP04

Section	ID	Description	Total		Start	Finish	Early Start	Late Finish	Duration	Planned	Actual	Remaining												
			On	Off																				
Section 13																								
Area SAI, SAI2, SAI3, SAI4 & SAI5																								
Establishment Works																								
BSACSL000	Soil Mix (Area SAI1 - South Section)	30	113d	0	10APR06	15MAY06	23AUG06	26SEP06																
BSACSL000	Soil Mix (Area SAI1 - North Section)	30	107d	0	17APR06	22MAY06	23AUG06	24SEP06																
BSACSL000	Soil Mix (Car Park, Loading & Unloading Areas)	6	5d	0	03SEP06	08SEP06	03NOV06	08NOV06																
BSACSL000	Soil Mix (Area Adjacent Road SL3)	30	57d	0	16JUN06	21JUL06	23AUG06	24SEP06																
BSACSL000	Planting Works	60	57d	0	22JUL06	29SEP06	27SEP06	07DEC06																
BSACSL000	Planting Works (Car Park, Loading & Unloading Areas)	6	8d	0	08SEP06	15SEP06	20DEC06	20DEC06																
Area SAI6, SAI7, SAI10, SAI11, SAI12 & SAI13																								
Establishment Works																								
BSADSL000	Groundcovers Works	45	107d	0	24MAY06	17JUL06	28SEP06	21NOV06																
BSADSL000	Groundcovers Works	30	107d	0	18JUL06	21AUG06	22NOV06	28DEC06																
Section 14																								
Area SAI4, SAI10 & SAI14																								
Establishment Works																								
BSAEW000	Establishment Works	300	127d	0	28JUL06	21JUL07	24FEB07	17FEB07																
Section 15																								
Area SAI10, SAI11A, SAI12 & SAI13																								
Establishment Works																								
BSAEW000	Establishment Works	300	20d	0	16OCT06	12OCT07	11NOV06	08NOV07																
Section 16																								
Area SAI1, SAI2, SAI3, SAI4 & SAI5																								
Establishment Works																								
BSAEW000	Establishment Works	320	57d	0	30SEP06	20OCT07	04DEC06	28DEC07																
Area SAI4, SAI10, SAI11, SAI12 & SAI13																								
Establishment Works																								
BSAEW000	Establishment Works	300	114d	0	22AUG06	15AUG07	02JAN07	28DEC07																

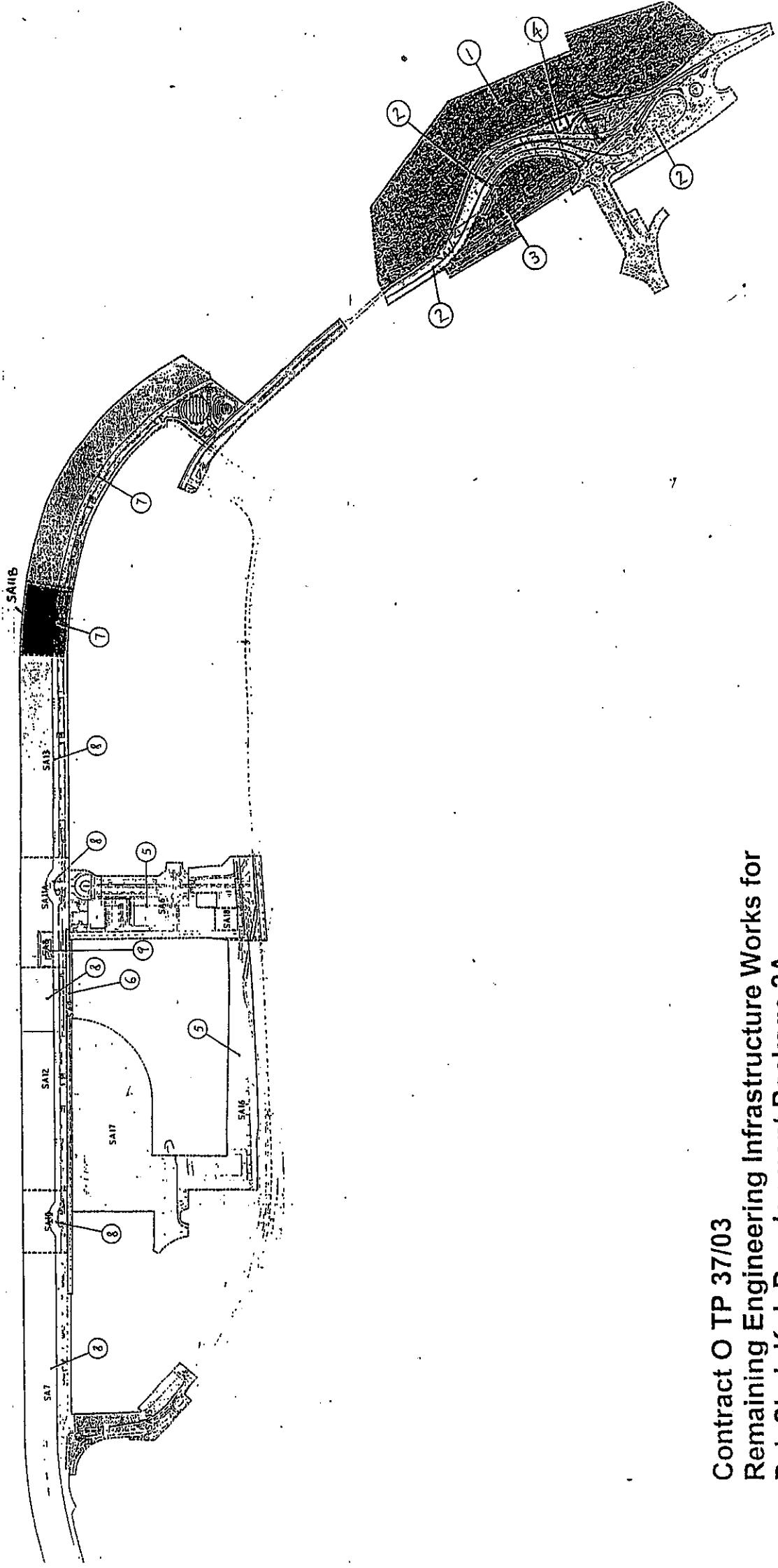
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 Finish date: 20OCT07      End date: 25SEP06      Due date: 11OCT06      Status milestone point:  
 Plan date: 17OCT06      Page number: 170A      Critical date: 08OCT06      Finish milestone point:  
 Crompton Systems, Inc.      ◆      Summary date: 08OCT06      Status milestone point:  
 ◆      Finish date: 28DEC07      Due date: 28DEC07      Status milestone point:  
 ◆      End date: 28DEC07      Page number: 170B      Critical date: 28DEC07      Finish milestone point:

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## **Appendix G**

### **Construction Site Area**



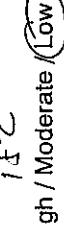
Contract O TP 37/03  
Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2A

Location and Key Plan

## **Appendix H**

### **The Implementation Status of Mitigation Measures and Follow-up Actions during Weekly Site Inspections**

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date	:	2 March 2006	Inspected by	Name : (RSS) Eric Lam	(LWKA)	Benjie	(ET)	H. T. Chau
Time	:	13:45	Signature	: 				
Weather Condition	:	Sunny / <u>Fine</u> Overcast / Drizzle / Rain / Storm / Hazy	Temperature	: 	15°C			
Wind	:	Calm / <u>Light</u> Breeze / Strong	Humidity	:	High / Moderate / <u>Low</u>			

Mitigation Measures on Waste Management	Implementation Stages*		Remark
	Yes	No	
<b>Air Quality</b>			
- The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.	<input checked="" type="checkbox"/>		
- During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	<input checked="" type="checkbox"/>		
- All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	<input checked="" type="checkbox"/>		# 1
- The haul road should be either paved or regular watering.	<input checked="" type="checkbox"/>		
- Unpaved areas should be watered regularly to avoid dust generation.	<input checked="" type="checkbox"/>		
- The public road around the site entrance should be kept clean and free from dust.	<input checked="" type="checkbox"/>		
- Vehicle speed should be limited to 20 km/hr.	<input checked="" type="checkbox"/>		
- Wheel washing facilities should be provided at all main entrance of work site.	<input checked="" type="checkbox"/>		
- The enclosures should be around the main dust-generating activities.	<input checked="" type="checkbox"/>		
- Dusty materials should be sprayed prior to loading.	<input checked="" type="checkbox"/>		
- All plant and equipment should be well maintained e.g. without black smoke emission.	<input checked="" type="checkbox"/>		
- Vehicle and equipment should be switched off while not in use.	<input checked="" type="checkbox"/>		
- Open burning should be prohibited.	<input checked="" type="checkbox"/>		
<b>Noise</b>			
- The constructions works should be scheduled to minimize noise nuisance.	<input checked="" type="checkbox"/>		
- Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	<input checked="" type="checkbox"/>		
- Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	<input checked="" type="checkbox"/>		
- Plant known to emit noise strongly in one direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs.	<input checked="" type="checkbox"/>		
- Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	<input checked="" type="checkbox"/>		
- Noise enclosures, noise barriers, or portable noise barriers used where necessary.	<input checked="" type="checkbox"/>		
- Air compressors and hand held breakers should have noise labels.	<input checked="" type="checkbox"/>		
- Compressors and generators should operate with door closed.	<input checked="" type="checkbox"/>		
- Construction Noise Permits should be available for inspection.	<input checked="" type="checkbox"/>		

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark		
		Yes	No	N/A			
<b>Water Quality</b>							
<b>General Construction Activities</b>							
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓						
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓						
▪ All traps shall incorporate oil and grease removal facilities.							
▪ Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	✓						
▪ All drainage facilities should be adequate for controlled release of storm flows.	✓						
▪ Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓						
▪ Open stockpiles of more than 50m <sup>3</sup> should be covered.	✓			# 1			
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.	✓			# 1			
▪ Manholes should be covered and sealed.	✓						
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	✓						
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	✓						
▪ Vehicle washing facilities should be provided at every site exit.	✓						
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.	✓						
▪ Washing area and road exiting from washing facility should be paved.	✓						
▪ Access road should have sufficient back fall toward washing facility.	✓						
<b>Dredging Activities</b>							
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	✓						
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	✓						
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.	✓						
▪ The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.	✓						
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	✓						
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	✓						
▪ Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.	✓						
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	✓						

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management			Implementation Stages*	Remark
	Yes	No	N/A		
<b>Filling Activities</b>					
▪ Use of silt screen around the filling face to reduce the losses to the surrounding.	✓				
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.		✓			
▪ The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.		✓	①		
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.		✓			
▪ Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.		✓			
<b>Waste Management</b>					
<b>Marine Dredged Sediment</b>					
• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.		✓			
• Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.		✓			
• Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.		✓			
• Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m <sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.		✓			
• Inspection of the barge loading to ensure that loss of material does not take place during transportation.		✓			
<b>Construction and Demolition (C&amp;D) Waste</b>					
• Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.	✓				
• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.	✓				
• Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.	✓				
• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)		✓			
• In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste formworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.		✓			
• All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.	✓				
• Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.	✓				
• Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills	✓				
• Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	✓				
• Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized	✓				

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
• Proper storage will minimize the damage and thus the wastage of the materials	✓			
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	✓			
• Chemical Waste				
• It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓			
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓			
• Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓			
• Containers used for the storage of chemical wastes	✓			
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓			
• Have a capacity of less than 450L unless the specification have been approved by the EPD	✓			
• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	✓			
• Labelling				
• Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	✓			
• The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	✓			
• Storage Area				
• Be clearly labeled and used solely for the storage of chemical waste	✓			
• Be enclosed on at least 3 sides	✓			
• Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓			
• Have adequate ventilation	✓			
• Be covered to prevent rainfall entering	✓			
• Be arranged so that incompatible materials are adequately separated	✓			
• Be clean and maintain regularly	✓			
• Disposal				
• Be via a licensed waste collector	✓			
• To a licensed disposal facility, such as Chemical Waste Treatment Centre	✓			
• Be a reuser of the waste, under approval from the EPD	✓			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	<b>Mitigation Measures on Waste Management</b>	Implementation Stages*			Remark
		Yes	No	N/A	
• Spillage					
• Establish source of spill or discharge and determine nature of material, where possible halt discharge					
• Commencing at the source of the spill, establish all current and potential impacted areas					
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary					
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials					
• Dispose of materials as chemical wastes					
• General Refuse					
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste					
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.					
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts					
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.					
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.					
• Site Practice					
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.					
• Construction sites should be cleaned on a regular basis.					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.					
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.					
• The Environmental Permit should be displayed conspicuously on site					
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.					
• Any unused chemicals or those with remaining functional capacity should be recycled.					
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.					
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odour, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.					
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.					
• All generators, fuel and oil storage are within bundle areas.					
• Oil leakage from machinery, vehicle and plant is prevented.					
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.					

### Table for follow-up Action:

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 9 March 2006      Inspected by : Name : (RS) *Barry Lee*      Signature : *Barry Lee*  
 Time : 10:30  
 Weather Condition : ~~Sunny~~ / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : ~~Calm~~ / Light / Breeze / Strong  
 Temperature : 22 °C  
 Humidity : High / Moderate / Low

	Mitigation Measures on Waste Management			Implementation Stages*			Remark
	Yes	No	N/A	Yes	No	N/A	
<b>Air Quality</b>							
• The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.							
• During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.							
• All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.							
• The haul road should be either paved or regular watering.							
• Unpaved areas should be watered regularly to avoid dust generation.							
• The public road around the site entrance should be kept clean and free from dust.							
• Vehicle speed should be limited to 20 km/hr.							
• Wheel washing facilities should be provided at all main entrance of work site.							
• The enclosures should be around the main dust-generating activities.							
• Dusty materials should be sprayed prior to loading.							
• All plant and equipment should be well maintained e.g. without black smoke emission.							
• Vehicle and equipment should be switched off while not in use.							
• Open burning should be prohibited.							
<b>Noise</b>							
• The constructions works should be scheduled to minimize noise nuisance.							
• Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.							
• Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.							
• Plant known to emit noise strongly in one direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs.							
• Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.							
• Noise enclosures, noise barriers, or portable noise breakers used where necessary.							
• Air compressors and hand held breakers should have noise labels.							
• Compressors and generators should operate with door closed.							
• Construction Noise Permits should be available for inspection.							

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark		
		Yes	No	N/A			
<b>Water Quality</b>							
<b>General Construction Activities</b>							
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓	—	—	—			
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓	—	—	—			
▪ All traps shall incorporate oil and grease removal facilities.	✓	—	—	—			
▪ Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	✓	—	—	—			
▪ All drainage facilities should be adequate for controlled release of storm flows.	✓	—	—	①			
▪ Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓	—	—	—			
▪ Open stockpiles of more than 50m <sup>3</sup> should be covered.	✓	—	—	—			
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.	✓	—	—	—			
▪ Manholes should be covered and sealed.	✓	—	—	—			
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	✓	—	—	—			
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	✓	—	—	—			
▪ Vehicle washing facilities should be provided at every site exit.	✓	—	—	—			
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.	✓	—	—	—			
▪ Washing area and road exiting from washing facility should be paved.	✓	—	—	—			
▪ Access road should have sufficient back fall toward washing facility.	✓	—	—	—			
<b>Dredging Activities</b>							
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	✓	—	—	—			
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	✓	—	—	—			
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.	✓	—	—	—			
▪ The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.	✓	—	—	—			
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	✓	—	—	—			
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	✓	—	—	—			
▪ Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.	✓	—	—	—			
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	✓	—	—	—			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management			Implementation Stages*	Remark
	Yes	No	N/A		
<b>Filling Activities</b>					
- Use of silt screen around the filling face to reduce the losses to the surrounding.					
- All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.					
- The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.					
- All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.					
- Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.					
<b>Waste Management</b>					
<b>Marine Dredged Sediment</b>					
- Relevant licence / permits for disposal of marine dredged sediment are available for inspection.					
- Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fillings of barges and hopper dredgers before the vessel is moved.					
- Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.					
- Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m <sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.					
- Inspection of the barge loading to ensure that loss of material does not take place during transportation.					
<b>Construction and Demolition (C&amp;D) Waste</b>					
- Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.					
- Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.					
- Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.					
- Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)					
- In order to reduce the impacts to the public, except for those sorted inert materials (e.g. general refuse and waste frameworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.					
- All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.					
- Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.					
- Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills					
- Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.					
- Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized					

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*		Remark
	Yes	No	
• Proper storage will minimize the damage and thus the wastage of the materials	✓		
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	✓		
• Chemical Waste			
• It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓		
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓		
• Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓		
• Containers used for the storage of chemical wastes			
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓		
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓		
• Have a capacity of less than 450L unless the specification have been approved by the EPD	✓		
• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	✓		
• Labelling			
• Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	✓		
• The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	✓		
• Storage Area			
• Be clearly labeled and used solely for the storage of chemical waste	✓		
• Be enclosed on at least 3 sides	✓		
• Be enclosed on at least 3 sides	✓		
• Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓		
• Have adequate ventilation	✓		
• Be covered to prevent rainfall entering	✓		
• Be arranged so that incompatible materials are adequately separated	✓		
• Be clean and maintain regularly	✓		
• Disposal			
• Be via a licensed waste collector	✓		
• To a licensed disposal facility, such as Chemical Waste Treatment Centre	✓		
• Be a reuser of the waste, under approval from the EPD	✓		

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
• Spillage					
• Establish source of spill or discharge and determine nature of material, where possible halt discharge					
• Commencing at the source of the spill, establish all current and potential impacted areas					
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary					
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials					
• Dispose of materials as chemical wastes					
• General Refuse					
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste					
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.					
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts					
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.					
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.					
• Site Practice					
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.					
• Construction sites should be cleaned on a regular basis.					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.					
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.					
• The Environmental Permit should be displayed conspicuously on site					
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.					
• Any unused chemicals or those with remaining functional capacity should be recycled.					
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.					
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.					
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.					
• All generators, fuel and oil storage are within bundle areas.					
• Oil leakage from machinery, vehicle and plant is prevented.					
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.					

### Table for follow-up Action:

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 16 March 2006      Inspected by : Name : (RSS) JIMMY MA      Signature : (WKN) Peter Ho  
 Time : 09:30      Signature : 

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy      Temperature : 18°C  
 Wind : Calm / Light / Breeze / Strong      Humidity : High / Moderate / Low

	Mitigation Measures on Waste Management			Implementation Stages* Yes    No    N/A	Remark
	Yes	No	N/A		
<b>Air Quality</b>					
▪ The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.	<input checked="" type="checkbox"/>				
▪ During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	<input checked="" type="checkbox"/>				
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	<input checked="" type="checkbox"/>				
▪ The haul road should be either paved or regular watering.	<input checked="" type="checkbox"/>				
▪ Unpaved areas should be watered regularly to avoid dust generation.	<input checked="" type="checkbox"/>				
▪ The public road around the site entrance should be kept clean and free from dust.	<input checked="" type="checkbox"/>				
▪ Vehicle speed should be limited to 20 km/hr.	<input checked="" type="checkbox"/>				
▪ Wheel washing facilities should be provided at all main entrance of work site.	<input checked="" type="checkbox"/>				
▪ The enclosures should be around the main dust-generating activities.	<input checked="" type="checkbox"/>				
▪ Dusty materials should be sprayed prior to loading.	<input checked="" type="checkbox"/>				
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	<input checked="" type="checkbox"/>				
▪ Vehicle and equipment should be switched off while not in use.	<input checked="" type="checkbox"/>				
▪ Open burning should be prohibited.	<input checked="" type="checkbox"/>				
<b>Noise</b>					
▪ The constructions works should be scheduled to minimize noise nuisance.	<input checked="" type="checkbox"/>				
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	<input checked="" type="checkbox"/>				
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	<input checked="" type="checkbox"/>				
▪ Plant known to emit noise strongly in on direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs.	<input checked="" type="checkbox"/>				
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	<input checked="" type="checkbox"/>				
▪ Noise enclosures, noise barriers, or portable noise barriers used where necessary.	<input checked="" type="checkbox"/>				
▪ Air compressors and hand held breakers should have noise labels.	<input checked="" type="checkbox"/>				
▪ Compressors and generators should operate with door closed.	<input checked="" type="checkbox"/>				
▪ Construction Noise Permits should be available for inspection.	<input checked="" type="checkbox"/>				

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark		
		Yes	No	N/A			
<b>Water Quality</b>							
<b>General Construction Activities</b>							
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.		X					
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.		X					
▪ All traps shall incorporate oil and grease removal facilities.		X					
▪ Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.		X					
▪ All drainage facilities should be adequate for controlled release of storm flows.		X					
▪ Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.		X					
▪ Open stockpiles of more than 50m <sup>3</sup> should be covered.		X					
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.		X					
▪ Manholes should be covered and sealed.		X					
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.		X					
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.		X					
▪ Vehicle washing facilities should be provided at every site exit.		X					
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.		X					
▪ Washing area and road exiting from washing facility should be paved.		X					
▪ Access road should have sufficient back fall toward washing facility.		X					
<b>Dredging Activities</b>							
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.		X					
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.		X					
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.		X					
▪ The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.		X					
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.		X					
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.		X					
▪ Loading of barges shall be controlled to prevent spilling of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.		X					
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.		X					

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
<b>Filling Activities</b>					
- Use of silt screen around the filling face to reduce the losses to the surrounding.					
- All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.					
- The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.					
- All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.					
- Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.					
<b>Waste Management</b>					
<b>Marine Dredged Sediment</b>					
- Relevant licence / permits for disposal of marine dredged sediment are available for inspection.					
- Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.					
- Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.					
- Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m <sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.					
- Inspection of the barge loading to ensure that loss of material does not take place during transportation.					
<b>Construction and Demolition (C&amp;D) Waste</b>					
- Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.					
- Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.					
- Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.					
- Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)					
- In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste frameworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.					
- All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.					
- Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.					
- Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills					
- Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.					
- Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized					

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
• Proper storage will minimize the damage and thus the wastage of the materials				
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	✓			
• Chemical Waste				
• It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓			
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓			
• Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓			
• Containers used for the storage of chemical wastes				
• Containers used for the storage of chemical wastes				
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓			
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓			
• Have a capacity of less than 450L unless the specification have been approved by the EPD				
• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	✓			
• Labeling				
• Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	✓			
• The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	✓			
• Storage Area				
• Be clearly labeled and used solely for the storage of chemical waste				
• Be enclosed on at least 3 sides				
• Be enclosed on at least 3 sides				
• Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓			
• Have adequate ventilation				
• Be covered to prevent rainfall entering				
• Be arranged so that incompatible materials are adequately separated				
• Be clean and maintain regularly				
• Disposal				
• Be via a licensed waste collector				
• To a licensed disposal facility, such as Chemical Waste Treatment Centre				
• Be a reuser of the waste, under approval from the EPD				

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
• Spillage					✓
• Establish source of spill or discharge and determine nature of material, where possible halt discharge					✓
• Commencing at the source of the spill, establish all current and potential impacted areas					✓
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary					✓
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials					✓
• Dispose of materials as chemical wastes					✓
• General Refuse					
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste					✓
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.					✓
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts					✓
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.					✓
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.					✓
• Site Practice					
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.					✓
• Construction sites should be cleaned on a regular basis.					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.					✓
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.					✓
• The Environmental Permit should be displayed conspicuously on site					✓
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.					✓
• Any unused chemicals or those with remaining functional capacity should be recycled.					✓
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.					✓
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.					✓
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.					✓
• All generators, fuel and oil storage are within bundle areas.					✓
• Oil leakage from machinery, vehicle and plant is prevented.					✓
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.					✓

### Table for follow-up Action:

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date	: 23 / 3 / 06	Inspected by	Name : (RS) Eric Leung	Name : (LWKJ) Ben Yip	(ET) Linda Lam
Time	: 10 : 00	Signature	: 		
Weather Condition	: Sunny / Fine / <u>Overcast</u> / Drizzle / Rain / Storm / Hazy	Temperature	: 22 °C	Humidity	: <u>High</u> / Moderate / Low
Wind	: Calm / <u>Light</u> Breeze / Strong				

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
<b>Air Quality</b>				
- The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.	/			
- During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	/			
- All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	/			
- The haul road should be either paved or regular watering.	/			
- Unpaved areas should be watered regularly to avoid dust generation.	/			
- The public road around the site entrance should be kept clean and free from dust.	/			
- Vehicle speed should be limited to 20 km/hr.	/			
- Wheel washing facilities should be provided at all main entrance of work site.	/			
- The enclosures should be around the main dust-generating activities.	/			
- Dusty materials should be sprayed prior to loading.	/			
- All plant and equipment should be well maintained e.g. without black smoke emission.	/			
- Vehicle and equipment should be switched off while not in use.	/			
- Open burning should be prohibited.	/			
<b>Noise</b>				
- The constructions works should be scheduled to minimize noise nuisance.	/			
- Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	/			
- Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	/			
- Plant known to emit noise strongly in on direction, should, where possible, should be orientated so that the noise is directed away from nearby NSRs.	/			
- Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	/			
- Noise enclosures, noise barriers, or portable noise breakers should have noise labels.	/			
- Air compressors and hand held breakers should operate with door closed.	/			
- Construction Noise Permits should be available for inspection.	/			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark		
		Yes	No	N/A			
<b>Water Quality</b>							
<i>General / Construction Activities</i>							
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	/						
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	/						
▪ All traps shall incorporate oil and grease removal facilities.	/						
▪ Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	/						
▪ All drainage facilities should be adequate for controlled release of storm flows.	/						
▪ Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	/						
▪ Open stockpiles of more than 50m <sup>3</sup> should be covered.	/						
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.	/						
▪ Manholes should be covered and sealed.	/						
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	/						
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	/						
▪ Vehicle washing facilities should be provided at every site exit.	/						
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.	/						
▪ Washing area and road exiting from washing facility should be paved.	/						
▪ Access road should have sufficient back fall toward washing facility.	/						
<i>Dredging Activities</i>							
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	/						
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	/						
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.	/						
▪ The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.	/						
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	/						
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	/						
▪ Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.	/						
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	/						

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management			Implementation Stages*		Remark
	Yes	No	N/A		
<b>Filling Activities</b>					
<ul style="list-style-type: none"> <li>▪ Use of silt screen around the filling face to reduce the losses to the surrounding.</li> <li>▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.</li> <li>▪ The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.</li> <li>▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.</li> <li>▪ Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.</li> </ul>	/	/		Fig. ①	
<b>Waste Management</b>					
<b>Marine Dredged Sediment</b>					
<ul style="list-style-type: none"> <li>• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.</li> <li>• Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.</li> <li>• Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.</li> <li>• Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m<sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.</li> <li>• Inspection of the barge loading to ensure that loss of material does not take place during transportation.</li> </ul>	/	/			
<b>Construction and Demolition (C&amp;D) Waste</b>					
<ul style="list-style-type: none"> <li>• Most of the C&amp;D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.</li> <li>• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&amp;D materials.</li> <li>• Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.</li> <li>• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)</li> <li>• In order to reduce the impacts to the public, except for those sorted inert C&amp;D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste frameworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.</li> <li>• All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.</li> <li>• Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.</li> <li>• Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills</li> <li>• Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.</li> <li>• Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized</li> </ul>	/	/			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
• Proper storage will minimize the damage and thus the wastage of the materials	/			
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	/			
• Chemical Waste				
• It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	/			
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	.	/		item ②
• Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	/			
• Containers used for the storage of chemical wastes				
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	/			
• Have a capacity of less than 450L unless the specification have been approved by the EPD	/			
• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	/			item ②
• Labelling				
• Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	/			
• The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	/			item ②
• Storage Area				
• Be clearly labeled and used solely for the storage of chemical waste	/			
• Be enclosed on at least 3 sides	/			
• Be arranged so that incompatible materials are adequately separated	/			
• Be clean and maintain regularly	/			
• Disposal				
• Be via a licensed waste collector	/			
• To a licensed disposal facility, such as Chemical Waste Treatment Centre	/			
• Be a reuser of the waste, under approval from the EPD	/			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
• Spillage	<ul style="list-style-type: none"> <li>• Establish source of spill or discharge and determine nature of material, where possible halt discharge</li> <li>• Commencing at the source of the spill, establish all current and potential impacted areas</li> <li>• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary</li> <li>• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials</li> <li>• Dispose of materials as chemical wastes</li> </ul>	/	/	/	
• General Refuse	<ul style="list-style-type: none"> <li>• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste</li> <li>• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.</li> <li>• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts</li> <li>• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.</li> <li>• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.</li> </ul>	/	/		
• Site Practice	<ul style="list-style-type: none"> <li>• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.</li> <li>• Construction sites should be cleaned on a regular basis.</li> <li>• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.</li> <li>• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.</li> <li>• The Environmental Permit should be displayed conspicuously on site</li> <li>• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> <li>• Any unused chemicals or those with remaining functional capacity should be recycled.</li> <li>• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.</li> <li>• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.</li> <li>• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.</li> <li>• All generators, fuel and oil storage are within bundle areas.</li> <li>• Oil leakage from machinery, vehicle and plant is prevented.</li> <li>• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.</li> </ul>	/	/		Item 4

## Table for follow-up Action:



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## **Appendix I**

**IEC and RE Comments on Monthly EM&A Report**

**—  
February 2006**

**IEC and RE Comments on Monthly Environmental Monitoring and Audit Report – February 2006**

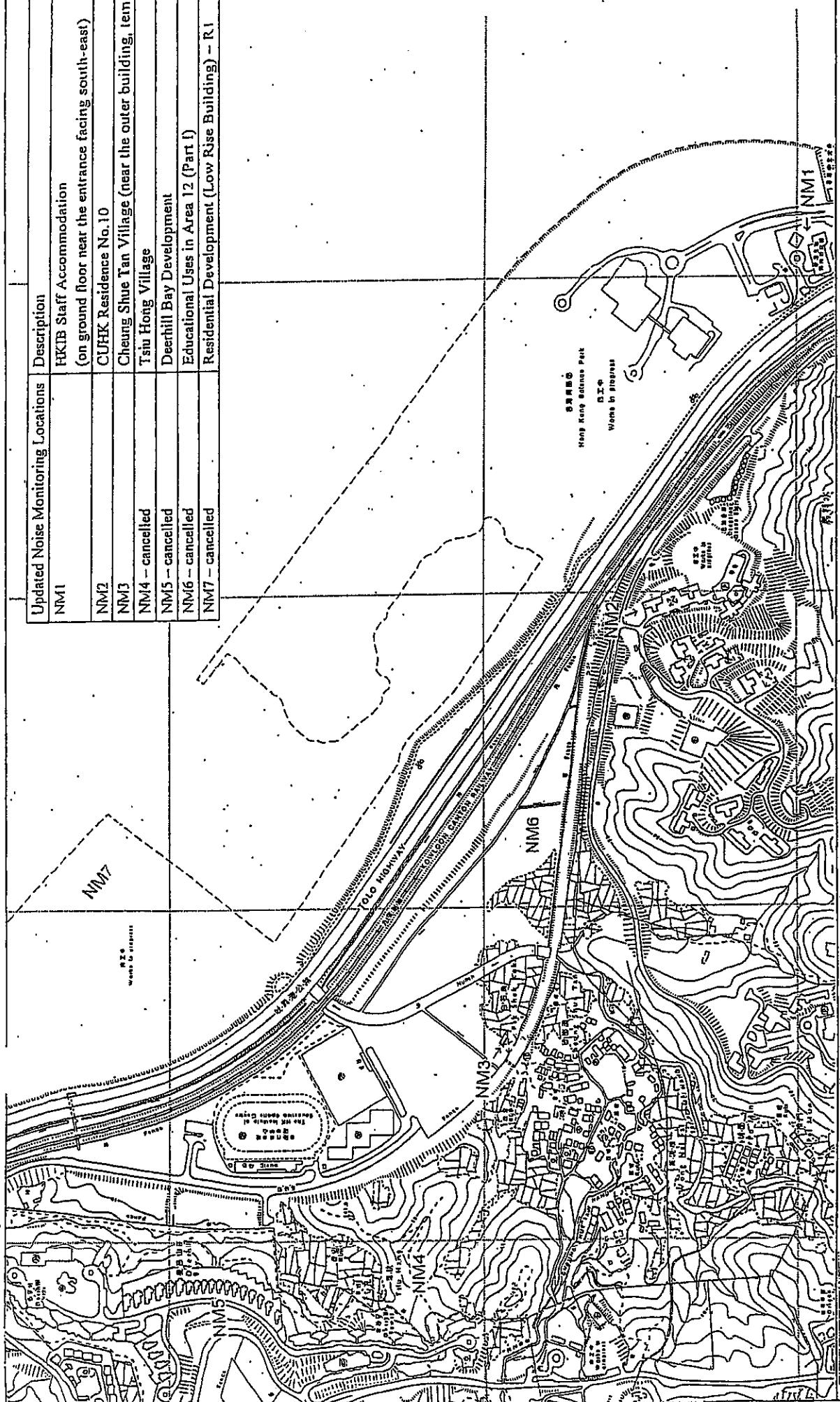
Item No.	Document Reference	Comment	ET Response
---	---	No RE and IEC comments were noticed.	No responses were required since no comments were noticed.



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## Figures

Updated Noise Monitoring Locations		Description
NM1		HKIB Staff Accommodation (on ground floor near the entrance facing south-east)
NM2		CUHK Residence No.10
NM3		Cheung Shue Tan Village (near the outer building, temple)
NM4 - cancelled		Tsui Hong Village
NM5 - cancelled		Deerhill Bay Development
NM6 - cancelled		Educational Uses in Area 12 (Part I)
NM7 - cancelled		Residential Development (Low Rise Building) - R1

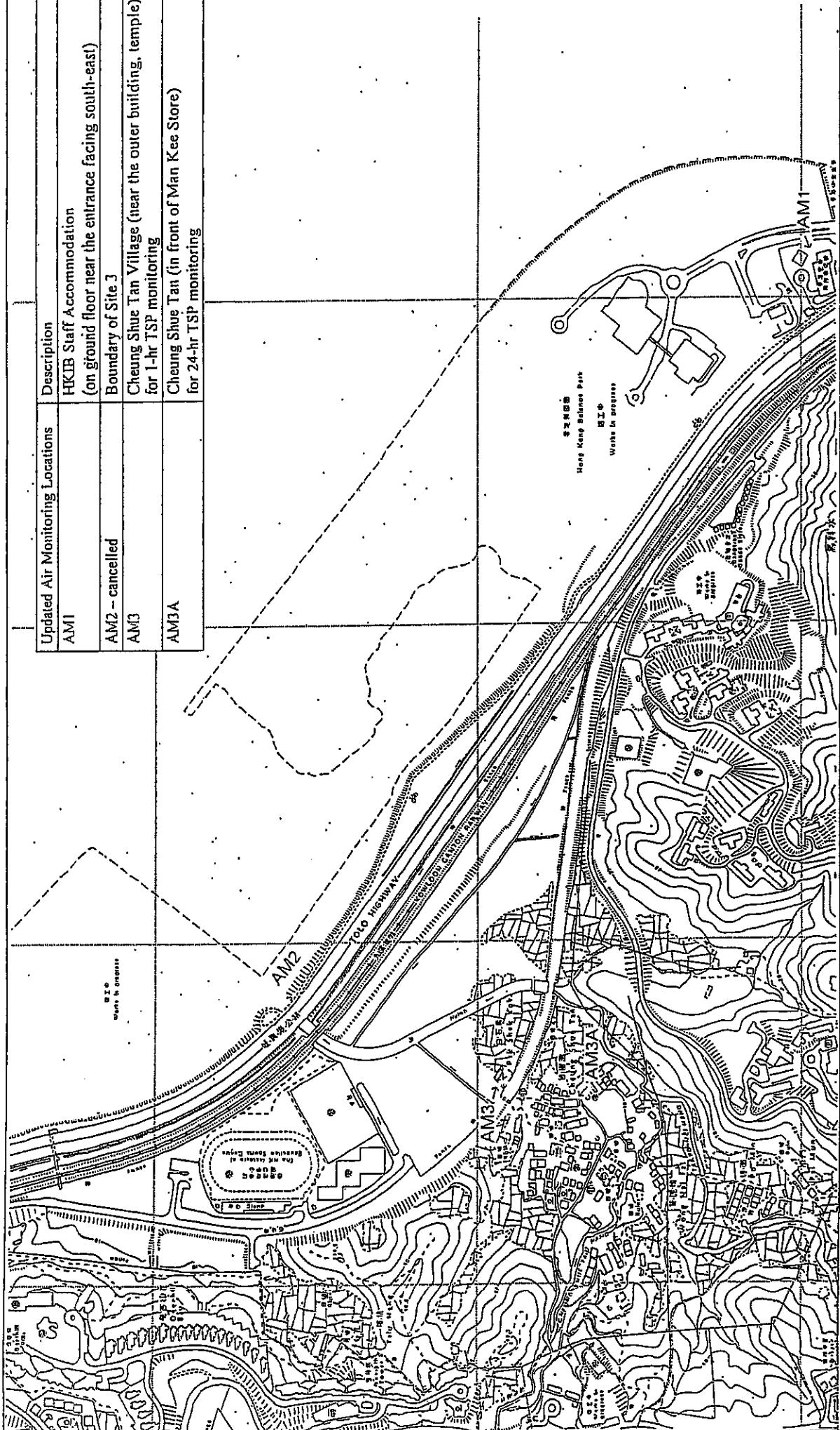


Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2 A  
Contract No. TP 37/03  
Figure 1 Location of Noise Monitoring Stations

Scale : ----	Revised Date:
June 2004	

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Updated Air Monitoring Locations	Description
AM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east)
AM2 – cancelled	Boundary of Site 3
AM3	Cheung Shue Tan Village (near the outer building, temple) for 1-hr TSP monitoring
AM3A	Cheung Shue Tan (in front of Man Kee Store) for 24-hr TSP monitoring



Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2 A  
Contract No. TP 37/03

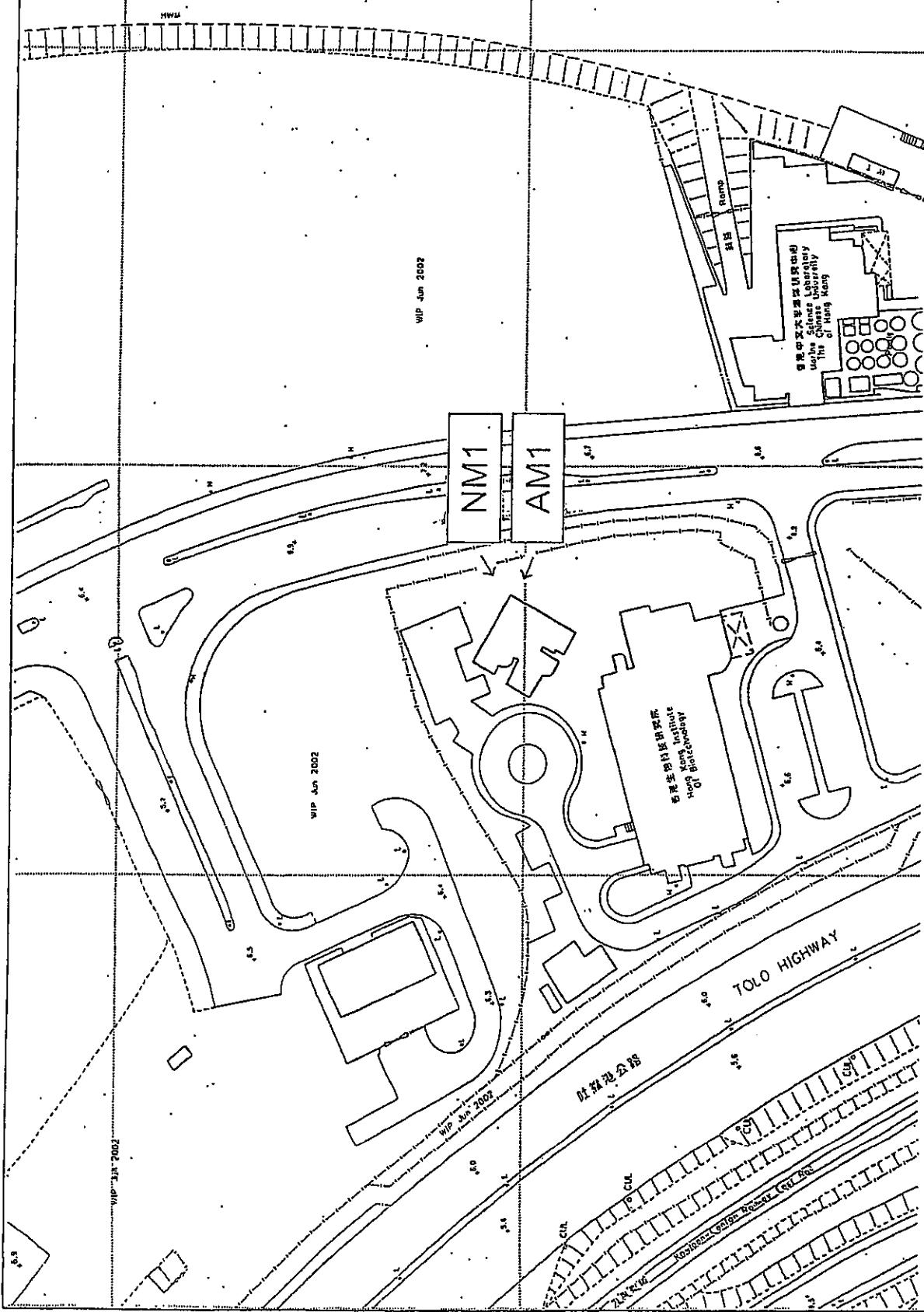
Figure 2 Location of Air Monitoring Stations

Scale : ---  
Revised Date:  
June 2004

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沙田海  
TIDE COVE  
(SHA TIN HOI)



Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2A  
Contract No. TP 37/03

Figure 3 Location of Air and Noise Monitoring Stations  
at HKIB Staff Accommodation

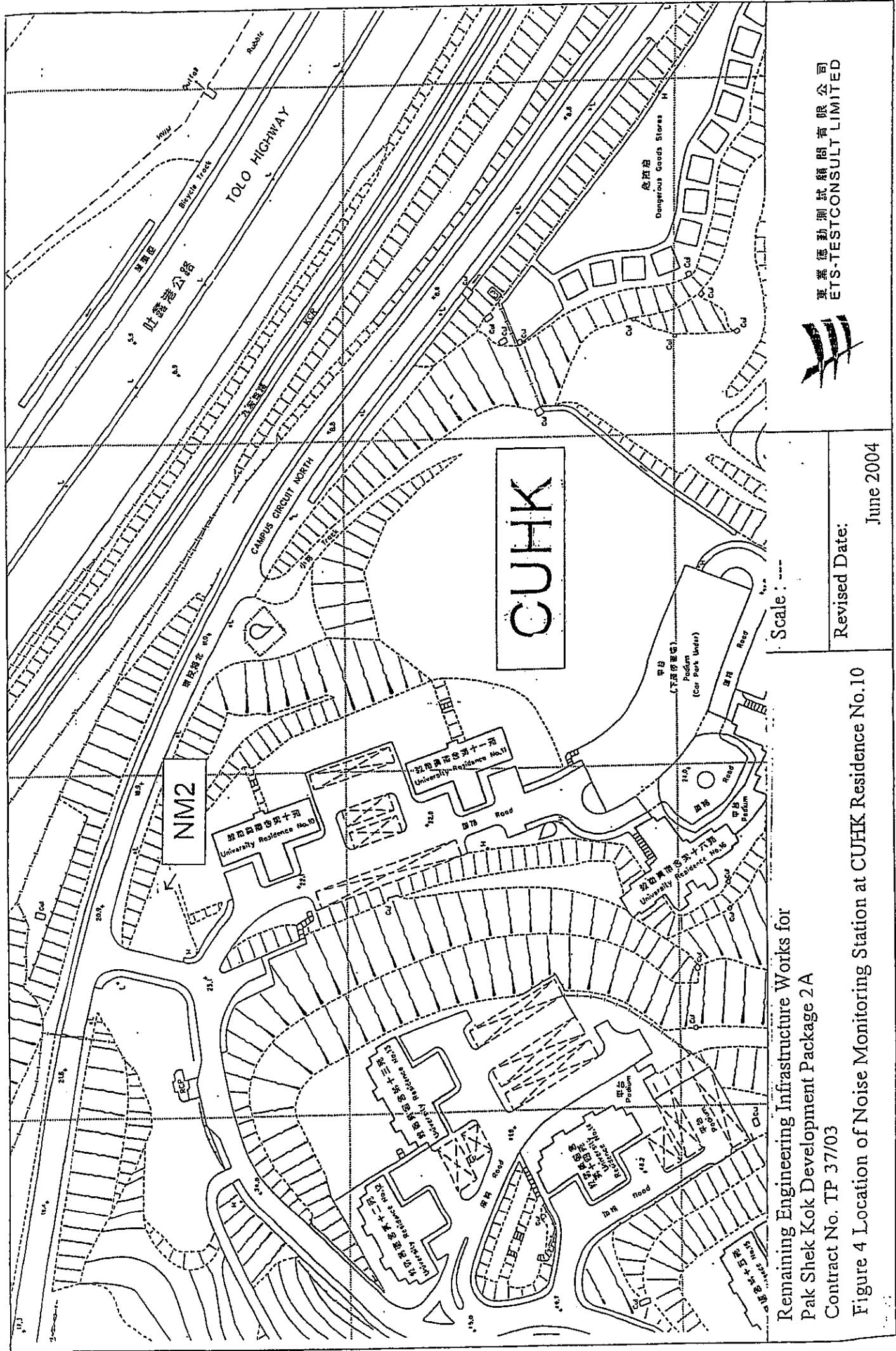
Scale : ---

Revised Date:

June 2004

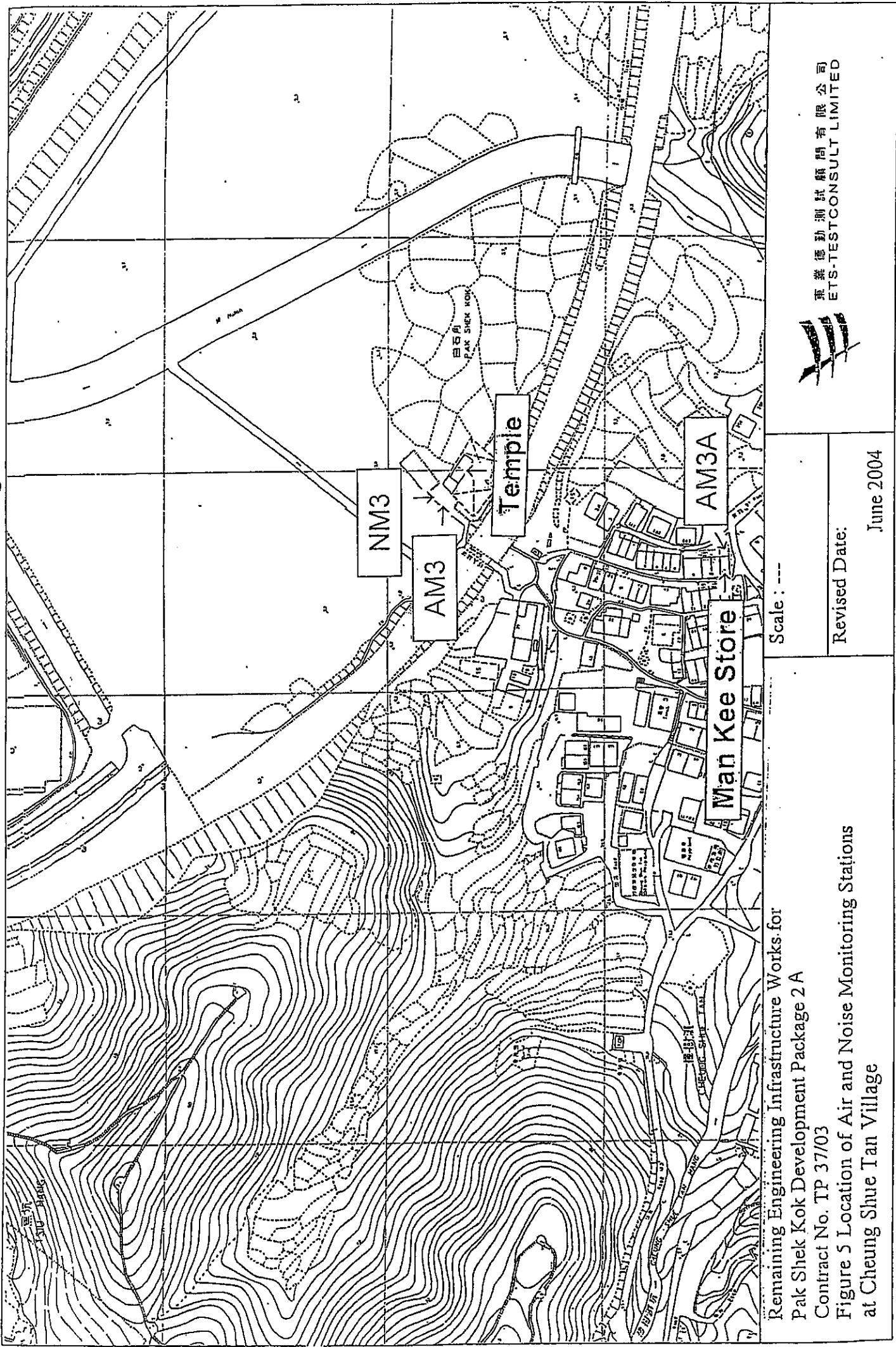
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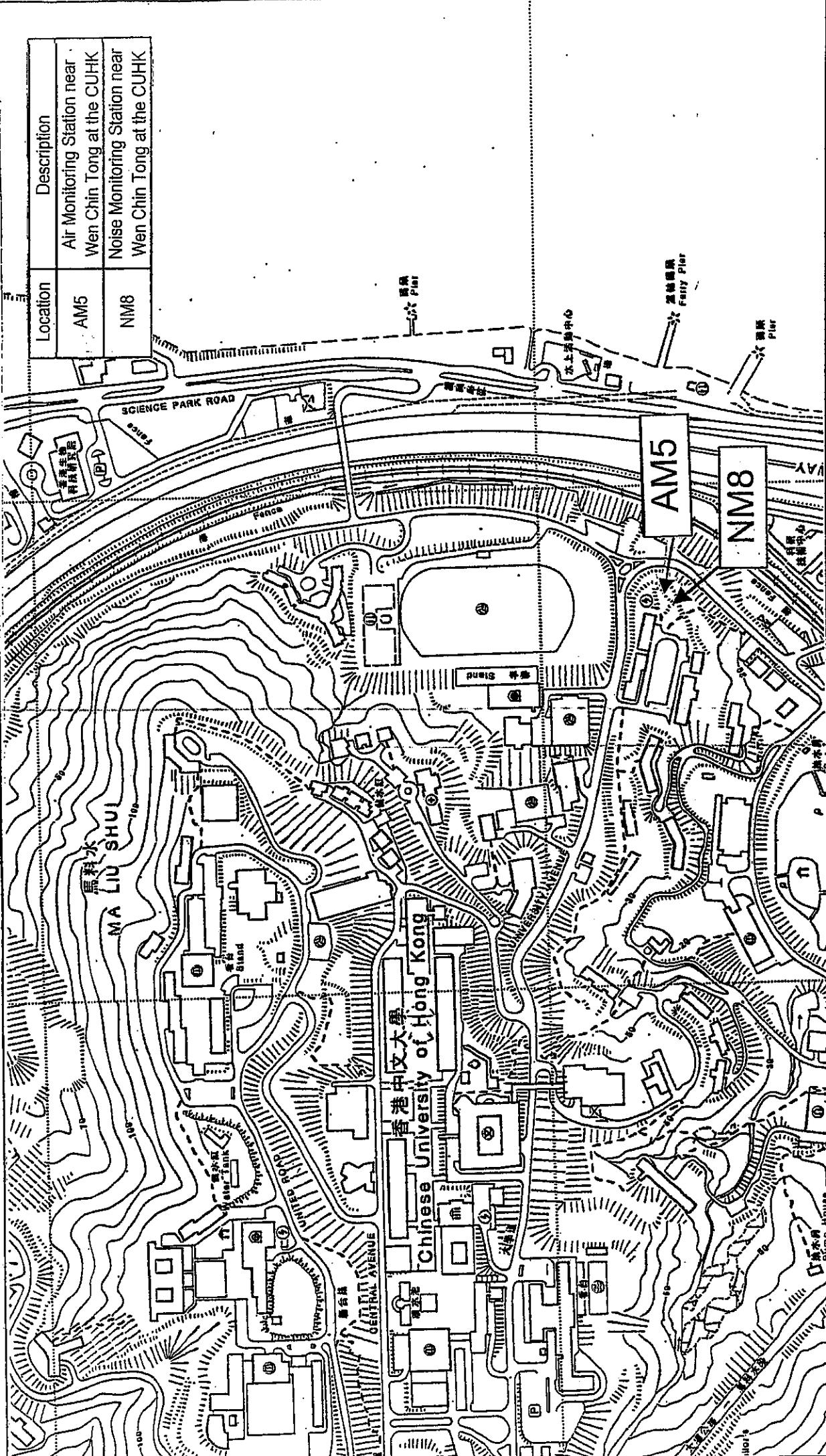




Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2A  
Contract No. TP 37/03

Figure 4 Location of Noise Monitoring Station at CUHK Residence No.10





Remaining Engineering Infrastructure Works for Pak Shek Kok Development  
Package 2A Contract No. TP 37/03

Figure 7 Additional Locations of Air and Noise Monitoring Stations at the  
Chinese University of Hong Kong

Revised Date :  
October 2004

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