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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
(MAY 2006)**

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EXECUTIVE SUMMARY

This monthly EM&A report (No.13) 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 May 2006.

Construction Progress

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

- Drainage works (Excavation, pipe lying and breaking) at Section 1 & 2 bridge V.O. abutment pier RE wall retaining wall;
- Excavation and construction of subway ramp and subway barrel;
- Installation of precast concrete planter units and concreting of insitu concrete planter at Section 7 and 8 (promenade) of the Works;
- Road works including the central divider at Section 5 (Road L4) & 6 (the proposed cycle track) of the works;
- Laying of watermains at cycle track at Section 6 of the Works;
- Plaza planter, lighting duct, finishing the landscape structure at the proposed landscape node P1;
- Construction of parapet wall at the proposed landscape node P1;
- Installation of precast units at the proposed landscape node P2 & P3 at Section 8 of the Works; and
- Construction of bus bays at Section 10 of the Works.

Environmental Monitoring Progress

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

- Noise Monitoring (Day-time): 5 Occasion at 4 designated locations
- 24-hour TSP Monitoring: 6 Occasions at 3 designated locations
- 1-hour TSP Monitoring: 13 Occasions at 3 designated locations
- Weekly-site inspection: 4 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

The test report of wastewater sample collected at Ma Liu Shui Discharge Point near Subway on 11 April 2006 had been submitted to the EPD at 09 May 2006 (Ref No.: J0402/03.09/06/7966L).

During this reporting month, no wastewater quality monitoring was carried out in this reporting month since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the current wastewater monitoring was carried out at Ma Liu Shui Discharge Point near Subway on 11 April 2006. The next wastewater monitoring should be at July 2006.

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)	02, 09, 17, 23
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 previous month, stockpiles of filling materials at Ma Liu Shui SA1 and SA3 were found to be covered by tarpaulin sheets during weekly site inspection (23/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
2	Air	Black smoke was found to be emitted from the Excavator (F23) at SA3 during weekly site inspection on 23/05/06.	LWKJV replied to stop using the defect excavator and repair it immediately. Besides, LWKJV also reminded the site workers to maintain all site machine properly to avoid black smoke emission.	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.
3	Water	Follow up action to the finding of previous month, silt curtain at Node 2 were found repaired during weekly site inspection (09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
4	Water	Follow up action to the finding of previous month, sand and mud blocked the U-channel next to the stockpile at Node 1 was found to be cleaned up by the Contractor during weekly site inspection (09/05/06)	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
5	Water	Follow up action to the finding of previous month, the rainy water accumulated at Portion H, Node 3 and Ma Liu Shui were pump out or drained out through temporary ditches during weekly site inspections (02/05/06 and 09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
6	Water	Follow up action to the finding of previous month, no site runoff was found to be accumulated in the drainage channel at Voided Abutment during weekly site inspection (09/05/06)	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
7	Water	Follow up action to the finding of previous month, no wastewater from wheel washing was found accumulated near the SA1 site entrance during weekly site inspection (09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
8	Chemical	Oil spillage from the repairing / maintenance works was observed at Workshop during weekly site inspection (23/05/06).	LWKJV replied to provide plastic sheet placing on the ground before repairing / maintenance works.	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.
9	Site Practice	Follow up action to the finding of previous month, EP was found to be post at Voided Abutment and SA1 site entrance during weekly site inspection (09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.

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. 2000m³ inert C&D materials, 10kg metals, 100kg paper/cardboard packaging and 21210kg 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 May 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 1 and 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 1 & 2 bridge V.O. abutment pier RE wall retaining wall
Excavation and construction of subway ramp and subway barrel	Ma Liu Shui
Installation of precast concrete planter units and concreting of insitu concrete planter	Section 7 & 8 (Promenade)
Road works including the central divider	Section 5 (Road L4) and 6 (the proposed cycle track)
Laying of watermains	Cycle track at Section 6
Plaza planter, lighting duct, finishing the landscape structure	The proposed landscape node P1
Construction of parapet wall	The proposed landscape node P1
Installation of precast units	The proposed landscape node P2 & P3 at Section 8
Construction of bus bays	Section 10 of the works

Table 3.2 Implementation of Environmental Mitigation Measures

General construction works	<ul style="list-style-type: none"> • Effective water sprays used on the site at potential dust emission sources such as haul roads and unpaved areas; • 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; • Water, hydro-seed or cover the open stockpile and exposed loose soil areas by using clean tarpaulin sheets; • 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; • Remove the sand/rubbish accumulated in the drain/channel regularly; • 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; • Remove the construction waste accumulated inside or outside the site regularly.
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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			
		Start		Finish		Date	Start	Finish	
		Date	Time	Date	Time				
AM1	HKIB Staff Accommodation	---				02/05/06	09:30	10:30	
						04/05/06	08:37	09:37	
						06/05/06	10:00	11:00	
						09/05/06	08:47	09:47	
						11/05/06	08:30	09:30	
						13/05/06	09:45	10:45	
						16/05/06	08:30	09:30	
						18/05/06	08:00	09:00	
						20/05/06	09:00	10:00	
						23/05/06	08:30	09:30	
						25/05/06	13:00	14:00	
						27/05/06	08:45	09:45	
						30/05/06	13:00	14:00	
AM3	Cheung Shue Tan Village (Near the outer building, temple)	---				02/05/06	13:15	14:15	
						04/05/06	09:52	10:52	
						06/05/06	13:00	14:00	
						09/05/06	13:08	14:08	
						11/05/06	09:50	10:50	
						13/05/06	08:30	09:30	
						16/05/06	13:00	14:00	
						18/05/06	16:30	17:30	
						20/05/06	13:00	14:00	
						23/05/06	13:00	14:00	
						25/05/06	09:00	10:00	
						27/05/06	13:20	14:20	
						30/05/06	16:40	17:40	
AM5	Near Wen Chih Tang at the CUHK	---				02/05/06	10:42	11:42	
						04/05/06	15:15	16:15	
						06/05/06	14:20	15:20	
						09/05/06	17:03	18:03	
						11/05/06	13:00	14:00	
						13/05/06	14:30	15:30	
						16/05/06	15:15	16:15	
						18/05/06	10:45	11:45	
						20/05/06	14:25	15:25	
						23/05/06	14:40	15:40	
						25/05/06	15:10	16:10	
						27/05/06	14:51	15:51	
						30/05/06	10:00	11:00	
AM1	HKIB Staff Accommodation	---				02/05/06	09:32	03/05/06	09:14
						08/05/06	15:28	09/05/06	15:36
						13/05/06	09:55	14/05/06	09:44
						19/05/06	08:15	20/05/06	07:52
						25/05/06	13:08	26/05/06	13:14
						30/05/06	13:08	31/05/06	13:00
AM3A	Cheung Shue Tan (in front of Man Kee Store)	---				02/05/06	13:17	03/05/06	13:58
						08/05/06	15:55	09/05/06	16:12
						13/05/06	08:44	14/05/06	08:55
						19/05/06	08:33	20/05/06	08:34
						25/05/06	09:11	26/05/06	09:11
						30/05/06	16:48	31/05/06	16:58
AM5	Near Wen Chih Tang at the CUHK	---				02/05/06	10:45	03/05/06	10:58
						08/05/06	15:37	09/05/06	18:01
						13/05/06	14:45	14/05/06	14:34
						19/05/06	08:50	20/05/06	08:45
						25/05/06	15:16	26/05/06	14:57
						30/05/06	10:10	31/05/06	10:10



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 0.6m³/min and 1.7m³/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	02/05/06	09:35	---	---	---	---	---	---
	09/05/06	09:00	---	---	---	---	---	---
	16/05/06	08:32	---	---	---	---	---	---
	23/05/06	08:32	---	---	---	---	---	---
	30/05/06	13:05	---	---	---	---	---	---
NM2	02/05/06	11:30	---	---	---	---	---	---
	09/05/06	09:45	---	---	---	---	---	---
	16/05/06	11:15	---	---	---	---	---	---
	23/05/06	11:20	---	---	---	---	---	---
	30/05/06	11:20	---	---	---	---	---	---
NM3	02/05/06	13:22	---	---	---	---	---	---
	09/05/06	13:11	---	---	---	---	---	---
	16/05/06	13:02	---	---	---	---	---	---
	23/05/06	13:02	---	---	---	---	---	---
	30/05/06	16:43	---	---	---	---	---	---
NM8	02/05/06	10:50	---	---	---	---	---	---
	09/05/06	17:05	---	---	---	---	---	---
	16/05/06	15:17	---	---	---	---	---	---
	23/05/06	14:42	---	---	---	---	---	---
	30/05/06	10:06	---	---	---	---	---	---

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).

The test report of wastewater sample collected at Ma Liu Shui Discharge Point near Subway on 11 April 2006 had been submitted to the EPD at 09 May 2006 (Ref No.: J0402/03.09/06/7966L) and shows in Appendix K.

During this reporting month, no wastewater quality monitoring was carried out in this reporting month since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the current wastewater monitoring was carried out at Ma Liu Shui Discharge Point near Subway on 11 April 2006. The next wastewater monitoring should be at July 2006.

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.

The test report of wastewater sample collected at Ma Liu Shui Discharge Point near Subway on 11 April 2006 had been submitted to the EPD at 09 May 2006 (Ref No.: J0402/03.09/06/7966L) and shows in Appendix K.

During this reporting month, no wastewater quality monitoring was carried out in this reporting month since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the current wastewater monitoring was carried out at Ma Liu Shui Discharge Point near Subway on 11 April 2006. The next wastewater monitoring should be at July 2006.

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 (02, 09, 17 and 23 May 2006). Monthly joint site inspection at 23 May 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 previous month, stockpiles of filling materials at Ma Liu Shui SA1 and SA3 were found to be covered by tarpaulin sheets during weekly site inspection (23/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
2	Air	Black smoke was found to be emitted from the Excavator (F23) at SA3 during weekly site inspection on 23/05/06.	LWKJV replied to stop using the defect excavator and repair it immediately. Besides, LWKJV also reminded the site workers to maintain all site machine properly to avoid black smoke emission.	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.
3	Water	Follow up action to the finding of previous month, silt curtain at Node 2 were found repaired during weekly site inspection 09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
4	Water	Follow up action to the finding of previous month, sand and mud blocked U-channel next to the stockpile at Node 1 was found to be cleaned up by the Contractor during weekly site inspection (09/05/06)	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
5	Water	Follow up action to the finding of previous month, the rainy water accumulated at Portion H, Node 3 and Ma Liu Shui were pump out or drained out through temporary ditches during weekly site inspections (02/05/06 and 09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.



Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
6	Water	Follow up action to the finding of previous month, no site runoff was found to be accumulated in the drainage channel at Voided Aboutment during weekly site inspection (09/05/06)	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
7	Water	Follow up action to the finding of previous month, no wastewater from wheel washing was found accumulated near the SA1 site entrance during weekly site inspection (09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.
8	Chemical	Oil spillage from the repairing / maintenance works was observed at Workshop during weekly site inspection (23/05/06).	LWKJV replied to provide plastic sheet placing on the ground before repairing / maintenance works.	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.
9	Site Practice	Follow up action to the finding of previous month, EP was found to be post at Voided Aboutment and SA1 site entrance during weekly site inspection (09/05/06).	Since the finding was improved, no further action was taken by LWKJV.	Since the finding was improved, no further verification was required to be taken by ET.

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	<p><u>Group A</u> One Poker, vibrator, hand-held (CNP170) One Concrete pump, lorry mounted (CNP047) One Concrete lorry mixer (CNP044)</p> <p><u>Group B</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081)</p> <p><u>Group C</u> One Grout Pump One Grout Mixer</p> <p><u>Group D</u> Two Air compressor, with noise emission label & Sound Power Level $\leq 102\text{dB(A)}$ One Piling rig</p> <p><u>Group E</u> One Crane, mobile (diesel) (CNP048)</p>
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	<p><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 ≤ 38 tonne</p> <p><u>Group B</u> One Derrick Barge (CNP061) One Tug boat (CNP221) One Generator, standard (CNP101)</p>
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	<p><u>Group A</u> One Tug Boat (CNP221)</p> <p><u>Group B</u> Three Derrick Barge (CNP061)</p>

Description	Permit No.	Valid Period		Section
		From	To	
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	<p>Group A Two Poker, vibratory, hand-held (CNP170) Two Concrete lorry mixer (CNP044) One Excavator, tracked (CNP081)</p> <p>Group B One Dump Truck (CNP067) One Excavator, tracked (CNP081)</p> <p>Group C One Asphalt Paver (CNP004) One Roller, Vibratory (CNP186) One Road Roller (CNP185) One Dump Truck (CNP067)</p> <p>Group D One Dump Truck (CNP067) One Excavator, tracked (CNP081) One Crane, mobile (diesel) (CNP048) One Lorry with crane</p>
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-RN0240-06	30/05/06	29/12/06	<p>Group A Two Poker, vibrator, hand-held (CNP170) Two Concrete pump, lorry mounted (CNP047) Two Concrete lorry mixer (CNP044)</p> <p>Group B One Dump Truck (CNP067) One Excavator, tracked (CNP081) One Roller, vibratory</p> <p>Group C One Asphalt Paver (CNP004) One Roller, Vibratory (CNP186) One Road Roller (CNP185) One Dump Truck (CNP067)</p> <p>Group D One Dump Truck (CNP067) One Excavator, tracked (CNP081) One Crane, mobile (diesel) (CNP048) One Lorry with crane</p>
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.
Chemical Waste Producer	5113-729-LL1113-01	24/09/04	---	Spent lubricating oil, spent battery parts containing heavy metals

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 refuses;
- 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 ³)	2000	Reused in the Contract	108365
	Broken Concrete (m ³)	0	N/A	865
	Reused in the Contract (m ³)	2000	N/A	107500
	Reused in other Projects (m ³)	0	N/A	0
	Disposal as Public Fill (m ³)	0	N/A	0
C&D Waste	Metals (1000kg)	0.010	N/A	37.415
	Paper/Cardboard Packaging (1000kg)	0.100	N/A	0.406
	Plastics (1000kg)	0.000	N/A	0.033
	Chemical Waste (1000kg)	0.000	N/A	1.000
	Other, e.g. General Refuse (1000kg)	21.21	SENT	179.49

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, no wastewater quality monitoring was carried out in this reporting month since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the current wastewater monitoring was carried out at Ma Liu Shui Discharge Point near Subway on 11 April 2006. The next wastewater monitoring should be at July 2006.

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	June 2006	July 2006
Noise Monitoring (Day-time)	06, 13, 20, 27	04, 11, 18, 25
1-hour TSP	01, 03, 06, 08, 10, 13, 15, 17, 20, 22, 24, 27, 29	04, 06, 08, 11, 13, 15, 18, 20, 22, 25, 27, 29
24-hour TSP	05, 10, 16, 22, 28	04, 10, 15, 21, 27
Site Inspection	01, 08, 15, 22, 29	06, 13, 20, 27

12.2 Upcoming construction works schedule in the coming months

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 months

Month	Works Planned to be Carried Out
Between June and July 2006	<ul style="list-style-type: none">▪ Drainage Works (excavation, pipe laying and breaking) at Section 1 and 2 (Ma Liu Shui), 7 and 8 (Promenade) of the Works;▪ Steel fixing and concreting of wall at Voided Abutment, column construction at Pier, and RE wall at North Abutment for the Alternative Design of the proposed Ma Liu Shui Bridge;▪ Construction of Retaining Wall No.1;▪ Setting back of surcharge mound at Hosing Site according to V.O. 146;▪ Construction of pedestrian ramps and barrel of the proposed Ma Liu Shui Subway (Alternative Design);▪ Installation of precast concrete planter and parapet wall units along the proposed Promenade at Section 8 of the Works;▪ Utility works at Section 5 of the Works;▪ Roadworks, CCTV survey, traffic and directional signs at Section 5 & 6 of the Works;▪ Construction of concrete backing and shelter foundation at the proposed Public Landing Steps;▪ Construction of in-situ Outfall 2 and 3 at the proposed Landscape Node P2 and P3;▪ Construction of parapet wall, kerb planter wall and feature wall at the Public Plaza at Section 7 of the Works; and▪ Hard landscaping works at Section 5 & 7 of the Works.

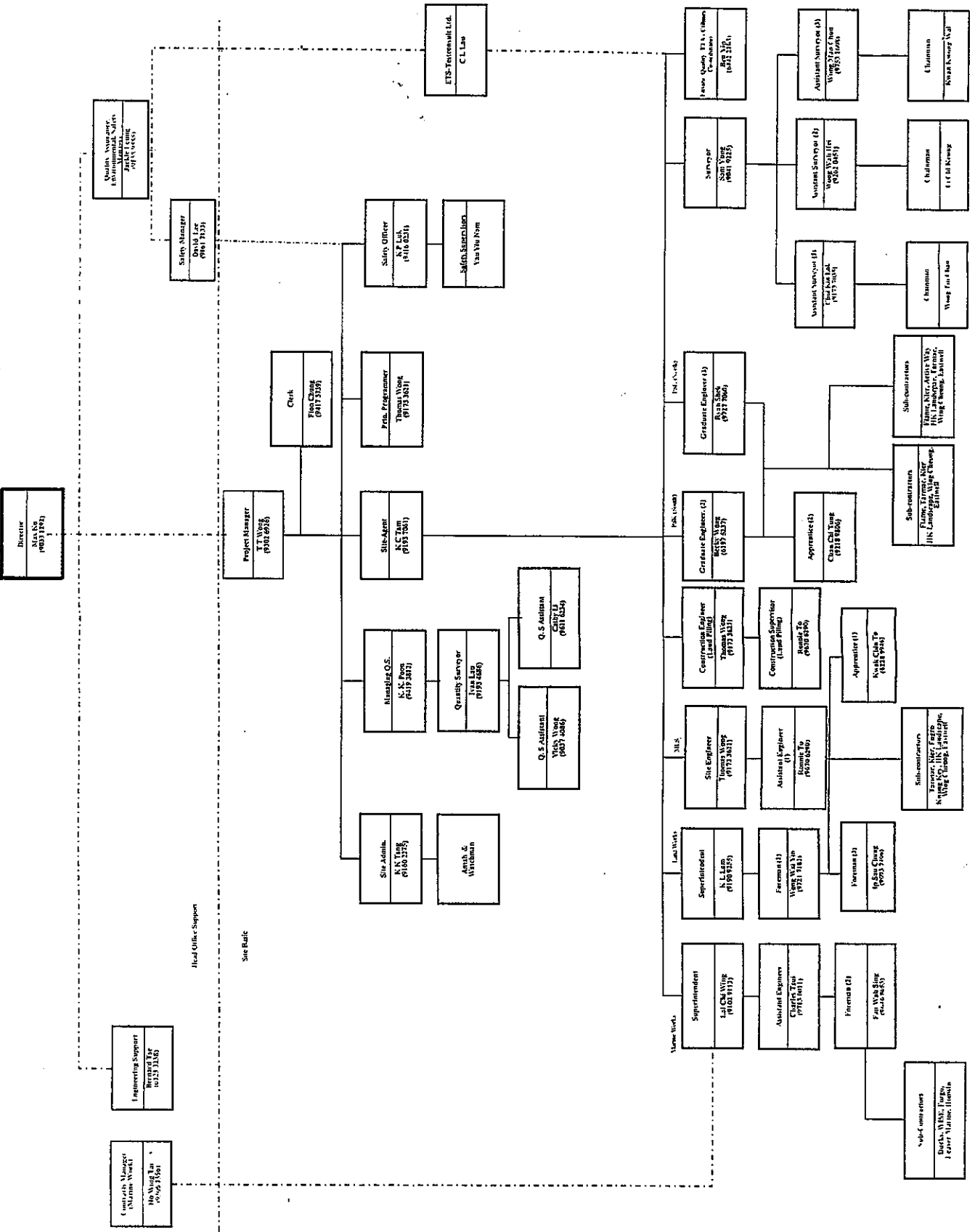


Appendix A

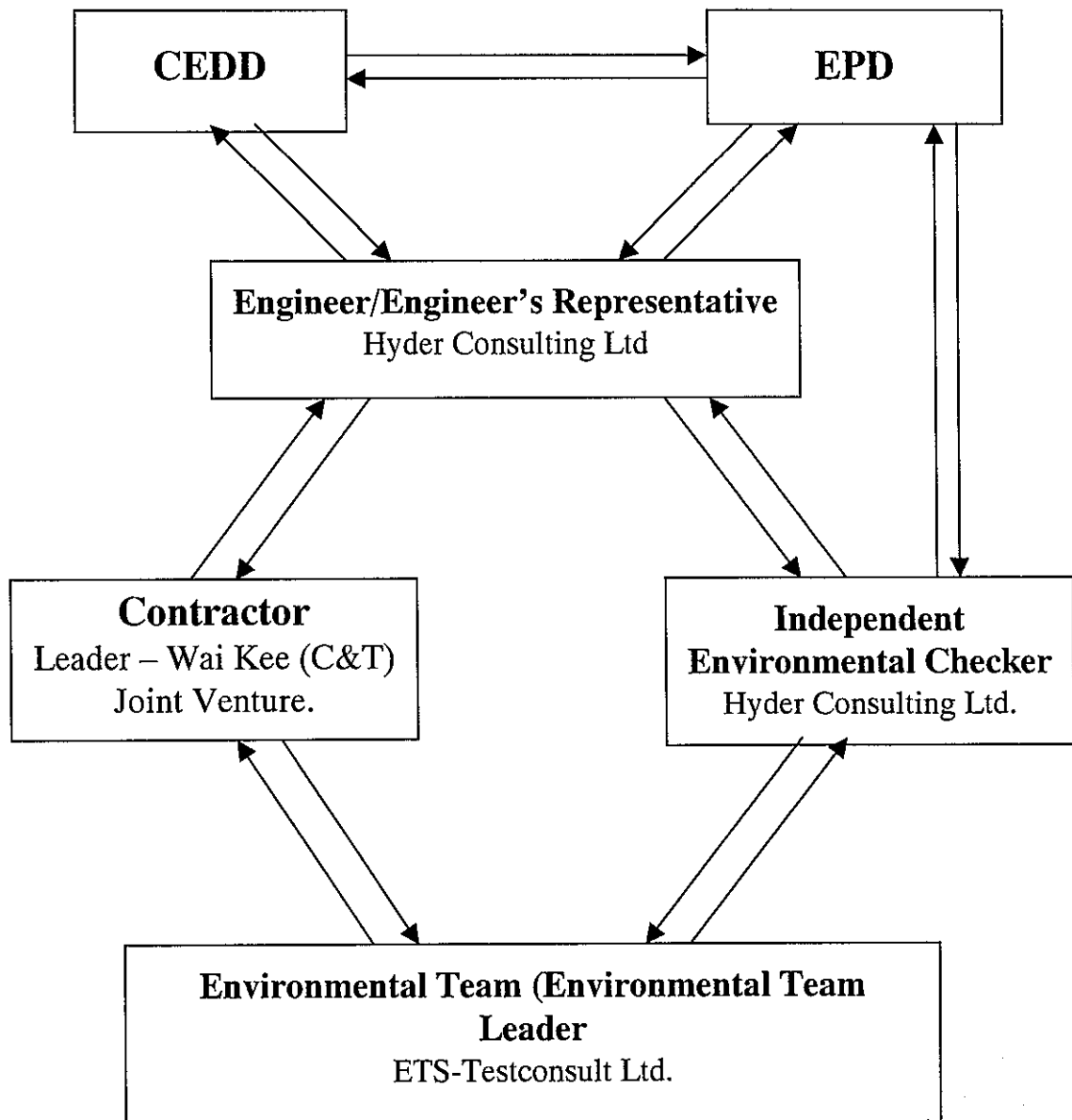
Organization Chart and Lines of Communication



Leader - Wai Kee (C&T) Joint Venture Contract No. TP 37/03 Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A Contractor's Site Organization Chart (Rev. 29th 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

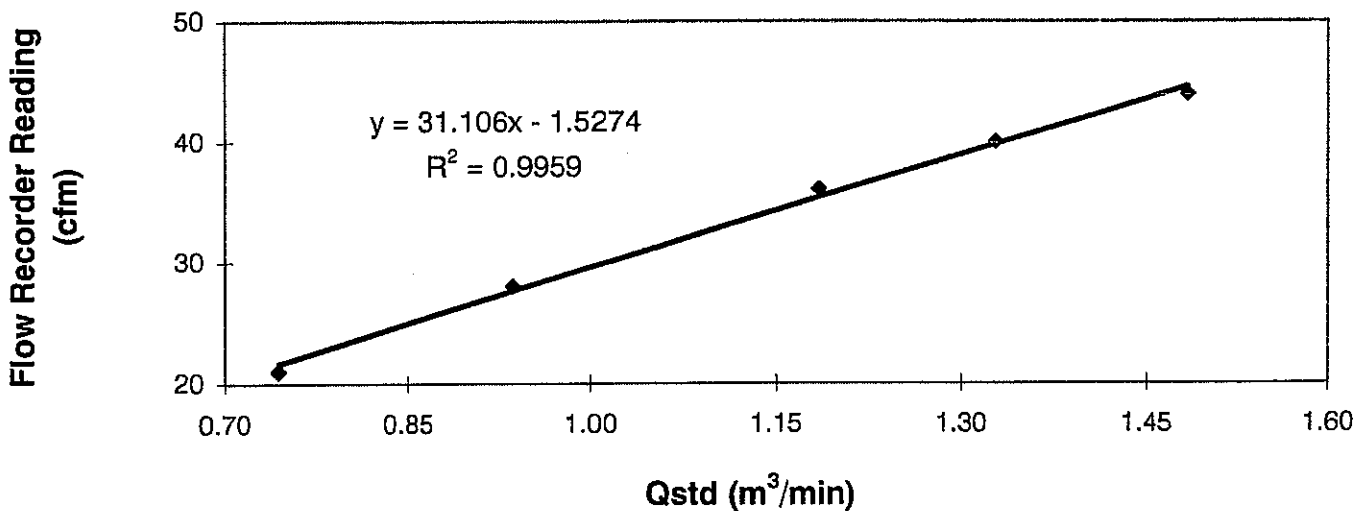
TEST REPORT

**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	28	21
	Qstd (Actual flow rate, m ³ /min)	1.48	1.33	1.19	0.94	0.74
	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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TEST REPORT

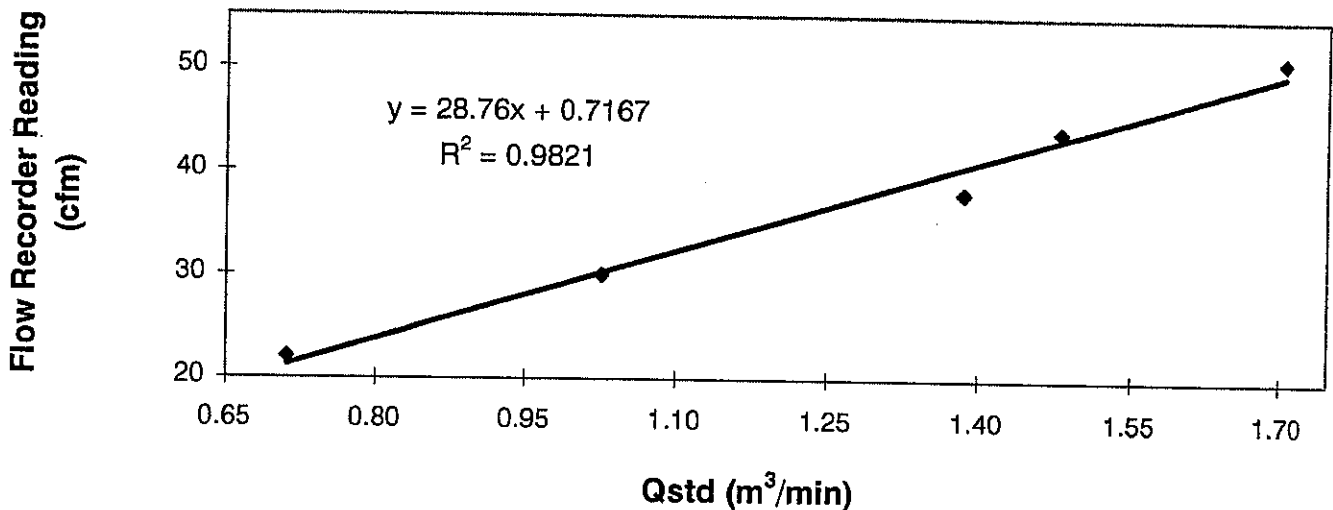
**Calibration Report
of
High Volume Air Sampler**

Manufacturer : Greasby GMW Date of Calibration : 13 May 2006
Serial No. : 1178 (ET / EA / 003 / 01) Calibration Due Date : 12 July 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	51	44	38	30	22
Qstd (Actual flow rate, m ³ /min)	1.70	1.48	1.39	1.03	0.71
Pressure :	762.06 mm Hg			Temp. :	302 K

**Sampler 1178 Calibration Curve
Site: Pak Shek Kok (AM1) (24hr.)
Date of Calibration: 13 May 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 : Felix Tin
Felix Tin
(Technician)

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



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TEST REPORT

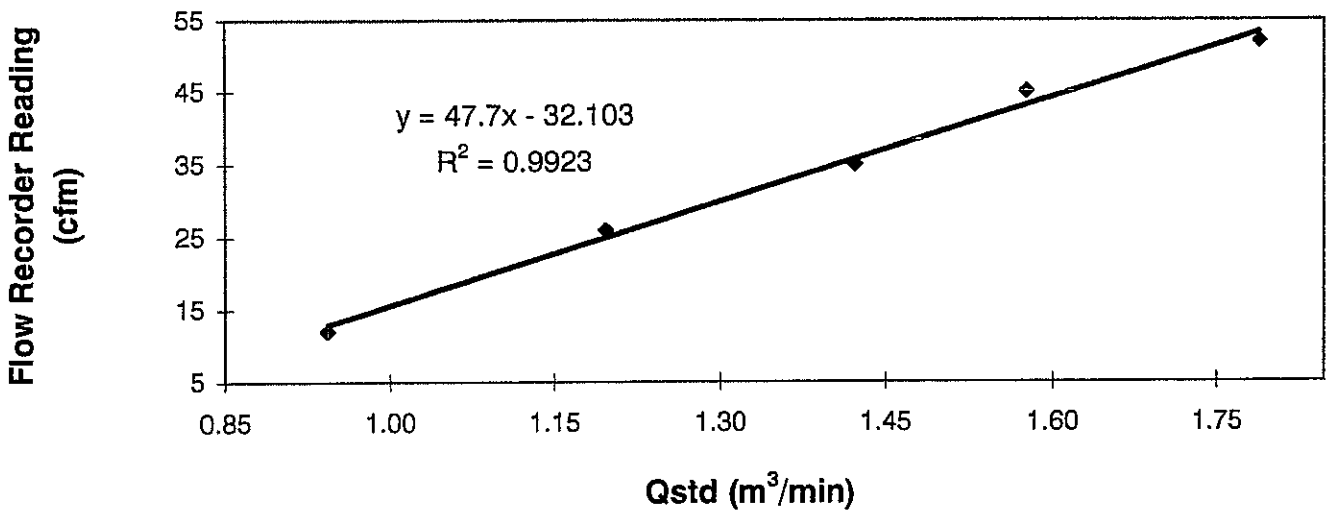
**Calibration Report
of
High Volume Air Sampler**

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	26	12
Qstd (Actual flow rate, m ³ /min)	1.79	1.58	1.42	1.20	0.94
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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TEST REPORT

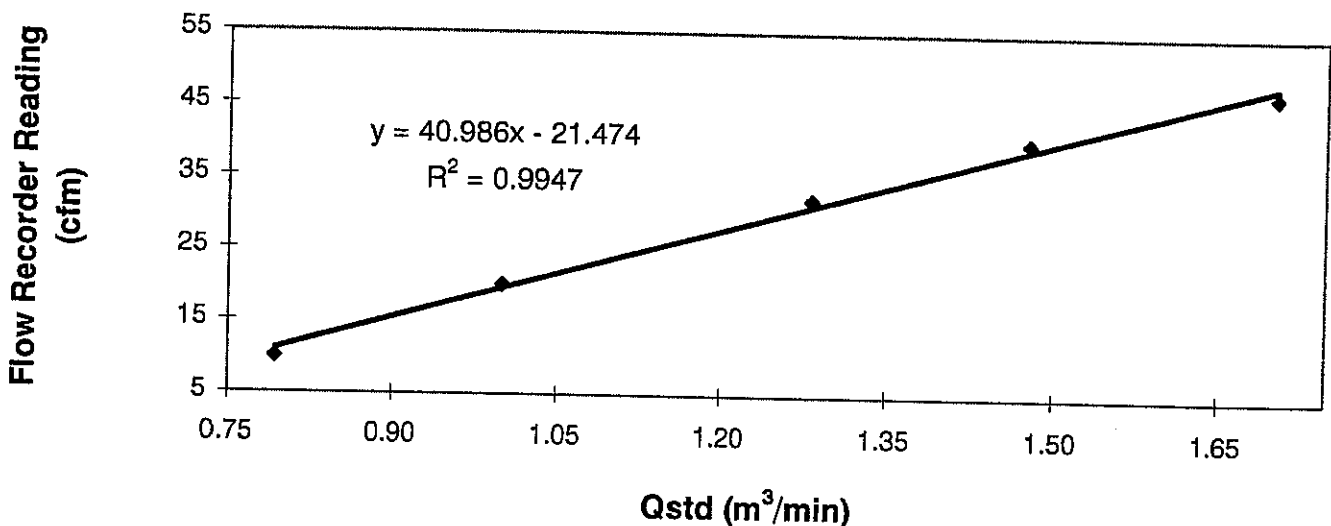
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 13 May 2006
Serial No. : 7179 (ET / EA / 003 / 16) Calibration Due Date : 12 July 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	47	40	32	20	10
Qstd (Actual flow rate, m ³ /min)	1.70	1.48	1.28	1.00	0.79
Pressure :	759.81 mm Hg		Temp. :	302 K	

Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM3A)
Date of Calibration: 12 May 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 :
Felix Tin
(Technician)

Approved by :
H. T. Chow
(Asst. 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

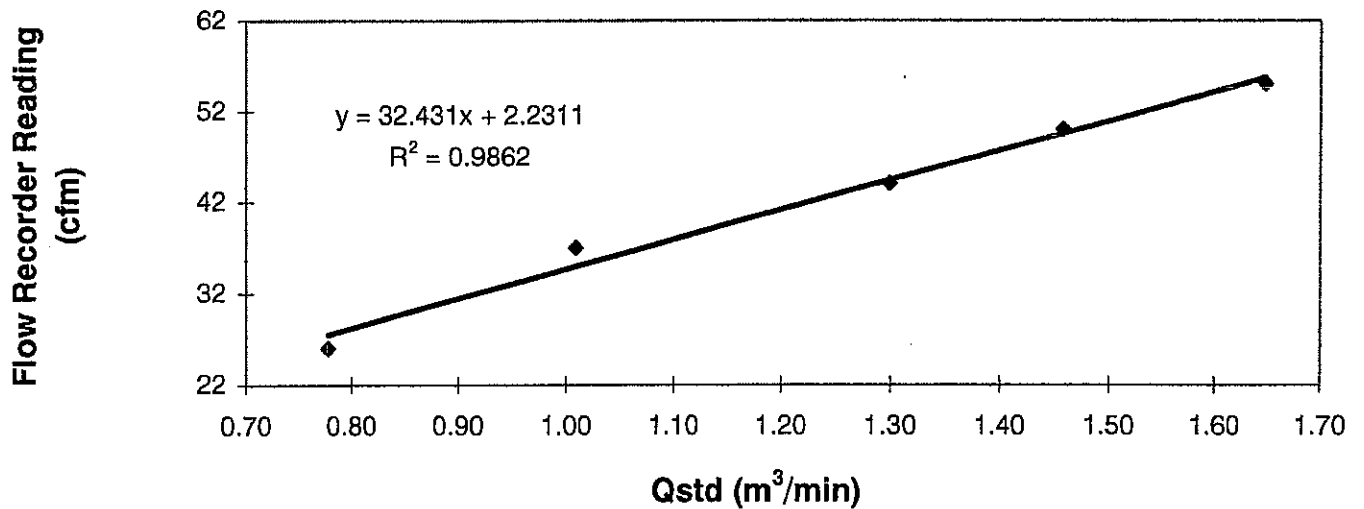
**Calibration Report
of
High Volume Air Sampler**

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	37	26
Qstd (Actual flow rate, m ³ /min)	1.65	1.46	1.30	1.01	0.78
Pressure :	767.31 mm Hg		Temp. :	292 K	

**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
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TEST REPORT

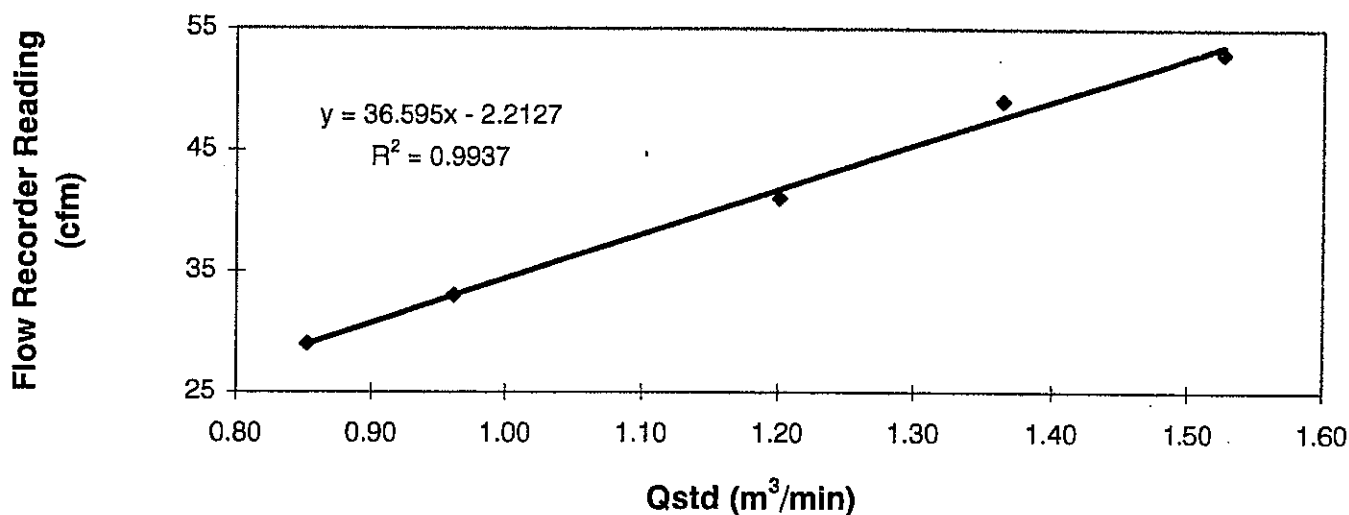
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 13 May 2006
Serial No. : 1172 (ET / EA / 003 / 11) Calibration Due Date : 12 July 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :


Flow recorder reading (cfm)	53	49	41	33	29
Qstd (Actual flow rate, m ³ /min)	1.53	1.36	1.20	0.96	0.85
Pressure :	758.31 mm Hg		Temp. :	302 K	

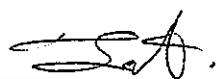
Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM5)
Date of Calibration: 13 May 2006



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 : 
Felix Tin
(Technician)

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



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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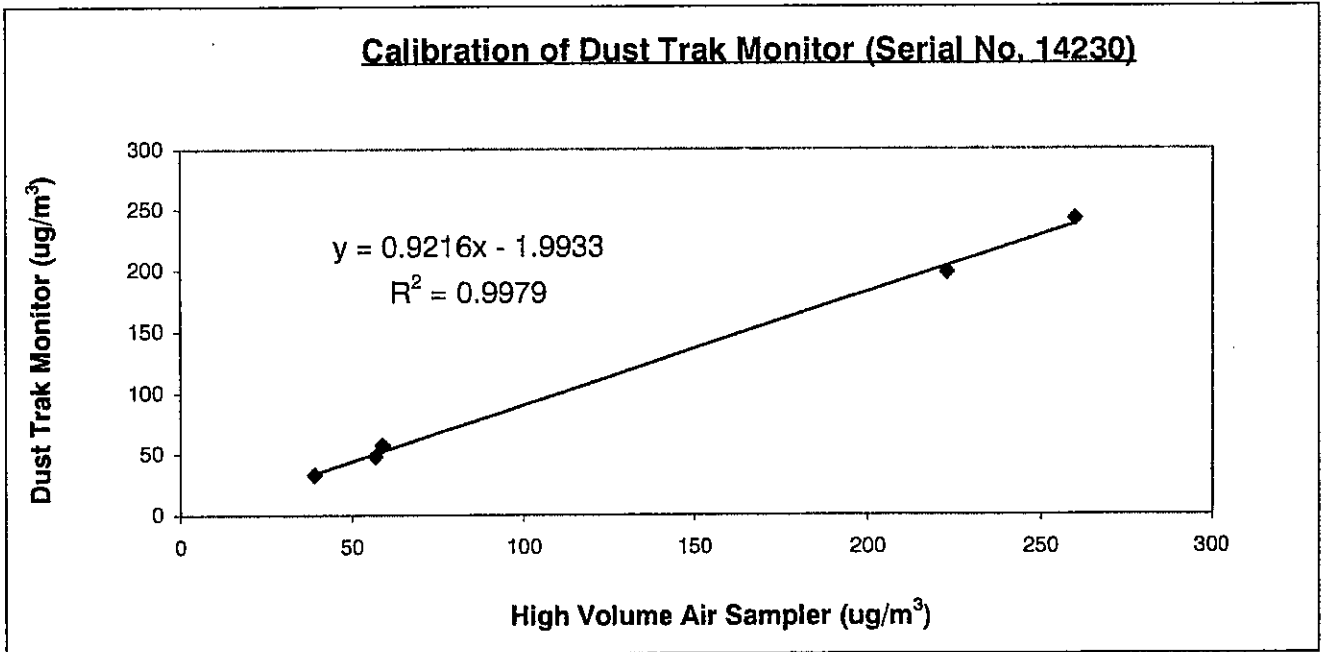
TEST REPORT

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 Samper together at same environment condition for parallel measurement with five point calibration

Results :

Dust Trak Monitor (ug/m ³)	39	57	59	223	260
High Volume Air Sampler (ug/m ³)	33	48	57	198	242
High Volume Air Sampler Serail No.: 1178			Calibration Date: 16 / 01 / 2006		



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	Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
02/05/06	09:32	03/05/06	09:14	9984.53	10008.23	23.70	1.34	1.34	1.34	2.8554	2.9104	29	Cloudy
08/05/06	15:28	09/05/06	15:36	10008.23	10032.36	24.13	1.30	1.30	1.30	2.8493	2.9214	38	Sunny
13/05/06	09:55	14/05/06	09:44	10032.36	10056.18	23.82	1.24	1.24	1.24	2.8335	3.0619	129	Cloudy
19/05/06	08:15	20/05/06	07:52	10056.18	10079.80	23.62	1.30	1.30	1.30	2.8913	2.9667	41	Sunny
25/05/06	13:08	26/05/06	13:14	10079.80	10103.90	24.10	1.30	1.30	1.30	2.9025	2.9514	26	Cloudy
30/05/06	13:08	31/05/06	13:00	10103.90	10127.77	23.87	1.30	1.30	1.30	2.8705	2.9992	37	Cloudy

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

Start Date	Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
02/05/06	13:17	03/05/06	13:58	15344.11	15368.80	24.69	1.30	1.30	1.30	2.8497	2.8928	22	Cloudy
08/05/06	15:55	09/05/06	16:12	15368.80	15393.09	24.29	1.30	1.30	1.30	2.8942	2.9237	16	Sunny
13/05/06	08:44	14/05/06	08:55	15393.09	15417.27	24.18	1.45	1.45	1.45	2.8391	3.0019	77	Cloudy
19/05/06	08:33	20/05/06	08:34	15417.27	15441.28	24.01	1.45	1.45	1.45	2.9155	2.9950	38	Sunny
25/05/06	09:11	26/05/06	09:11	15441.28	15465.28	24.00	1.39	1.39	1.39	2.8923	2.9318	20	Cloudy
30/05/06	16:48	31/05/06	16:58	15465.28	15489.45	24.17	1.39	1.39	1.39	2.8926	2.9203	14	Cloudy

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

Start Date	Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
02/05/06	10:45	03/05/06	10:58	5372.11	5396.33	24.22	0.92	0.92	0.92	2.8399	2.8723	24	Cloudy
08/05/06	15:37	09/05/06	18:01	5396.33	5422.73	24.40	0.95	0.95	0.95	2.8482	2.8770	21	Sunny
13/05/06	14:45	14/05/06	14:34	5420.73	5444.55	23.82	1.01	1.01	1.01	2.8276	2.9500	85	Cloudy
19/05/06	08:50	20/05/06	08:45	5444.55	5468.47	23.92	1.01	1.01	1.01	2.9011	2.9559	38	Cloudy
25/05/06	15:16	26/05/06	14:57	5468.47	5492.36	23.89	0.92	0.92	0.92	2.9022	2.9365	26	Cloudy
30/05/06	10:10	31/05/06	10:10	5492.36	5516.36	24.00	1.23	1.23	1.23	2.9277	2.9722	25	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	
02/05/06	09:30	10:30	56	392	132	Cloudy
04/05/06	08:37	09:37	96	395	151	Cloudy
06/05/06	10:00	11:00	97	396	138	Cloudy
09/05/06	08:47	09:47	87	361	130	Sunny
11/05/06	08:30	09:30	102	405	207	Cloudy
13/05/06	09:45	10:45	103	451	173	Cloudy
16/05/06	08:30	09:30	97	378	176	Cloudy
18/05/06	08:00	09:00	81	331	144	Sunny
20/05/06	09:00	10:00	92	394	149	Cloudy
23/05/06	08:30	09:30	90	382	122	Cloudy
25/05/06	13:00	14:00	90	386	131	Cloudy
27/05/06	08:45	09:45	90	375	136	Rainy
30/05/06	13:00	14:00	100	430	153	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	
02/05/06	13:15	14:15	33	308	97	Cloudy
04/05/06	09:52	10:52	81	314	112	Cloudy
06/05/06	13:00	14:00	64	320	112	Cloudy
09/05/06	13:08	14:08	95	318	124	Sunny
11/05/06	09:50	10:50	82	367	157	Cloudy
13/05/06	08:30	09:30	86	317	113	Cloudy
16/05/06	13:00	14:00	64	316	106	Cloudy
18/05/06	16:30	17:30	59	296	88	Sunny
20/05/06	13:00	14:00	62	307	92	Cloudy
23/05/06	13:00	14:00	62	305	99	Cloudy
25/05/06	09:00	10:00	62	301	95	Cloudy
27/05/06	13:20	14:20	78	330	112	Rainy
30/05/06	16:40	17:40	87	339	117	Cloudy

Summary of 1-hr TSP Monitoring Results

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

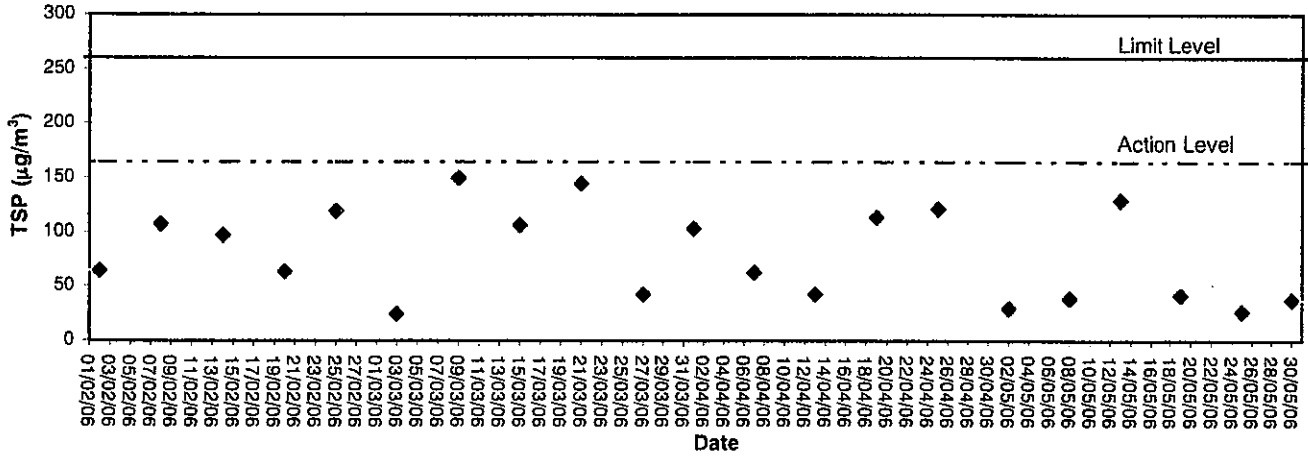
Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
02/05/06	10:42	11:42	49	357	104	Cloudy
04/05/06	15:15	16:15	92	353	126	Cloudy
06/05/06	14:20	15:20	79	357	130	Cloudy
09/05/06	17:03	18:03	92	375	145	Sunny
11/05/06	13:00	14:00	98	387	171	Cloudy
13/05/06	14:30	15:30	98	360	144	Cloudy
16/05/06	15:15	16:15	78	343	113	Cloudy
18/05/06	10:45	11:45	72	311	117	Sunny
20/05/06	14:25	15:25	78	356	104	Cloudy
23/05/06	14:40	15:40	74	327	108	Cloudy
25/05/06	15:10	16:10	73	361	118	Cloudy
27/05/06	14:51	15:51	89	374	133	Rainy
30/05/06	10:00	11:00	97	386	132	Cloudy



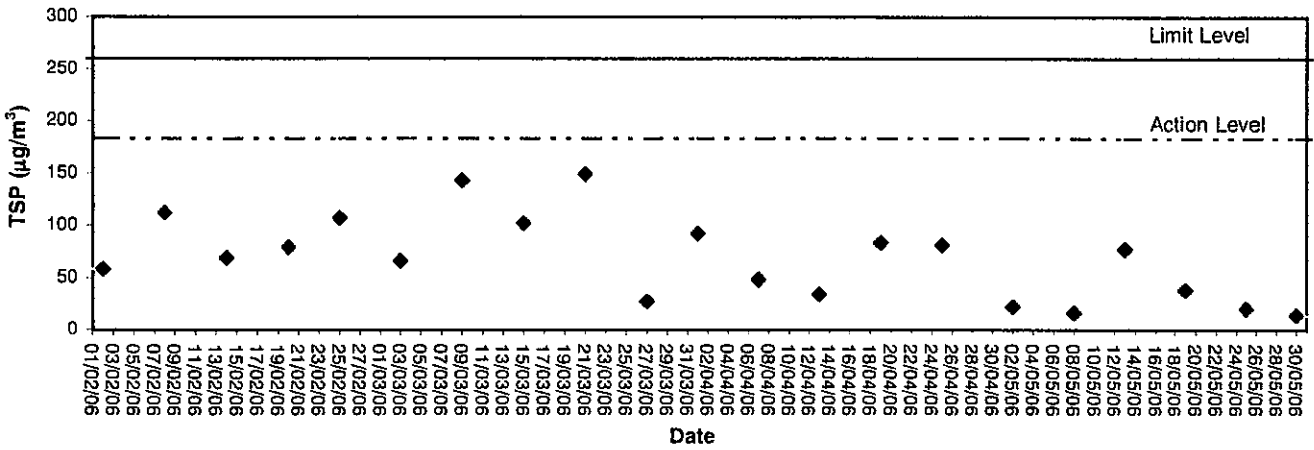
Appendix B3

Graphical Plots of Air Quality Monitoring Data

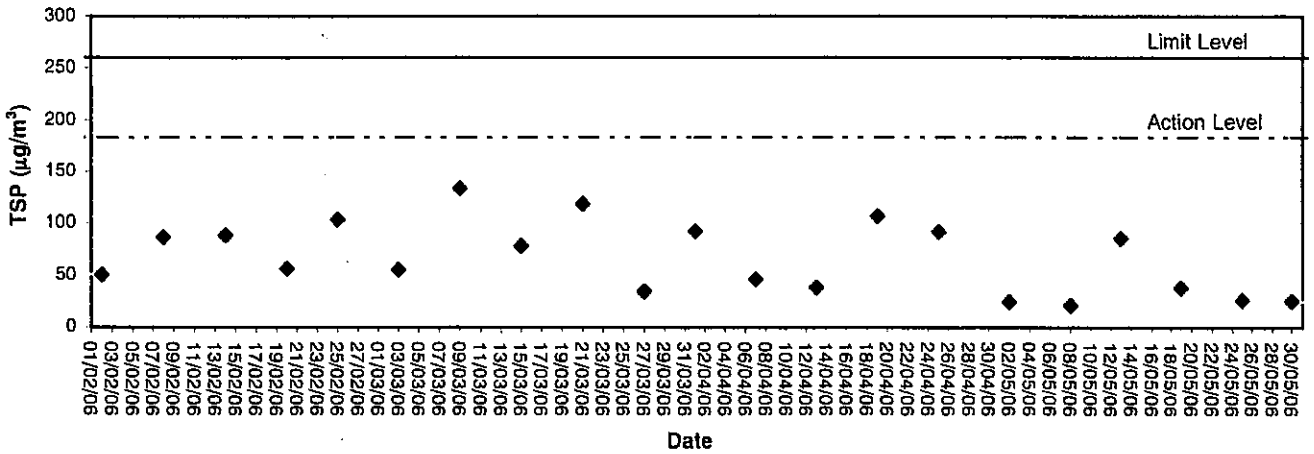
24-hour TSP level at AM1 (HKIB Staff Accommodation)



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

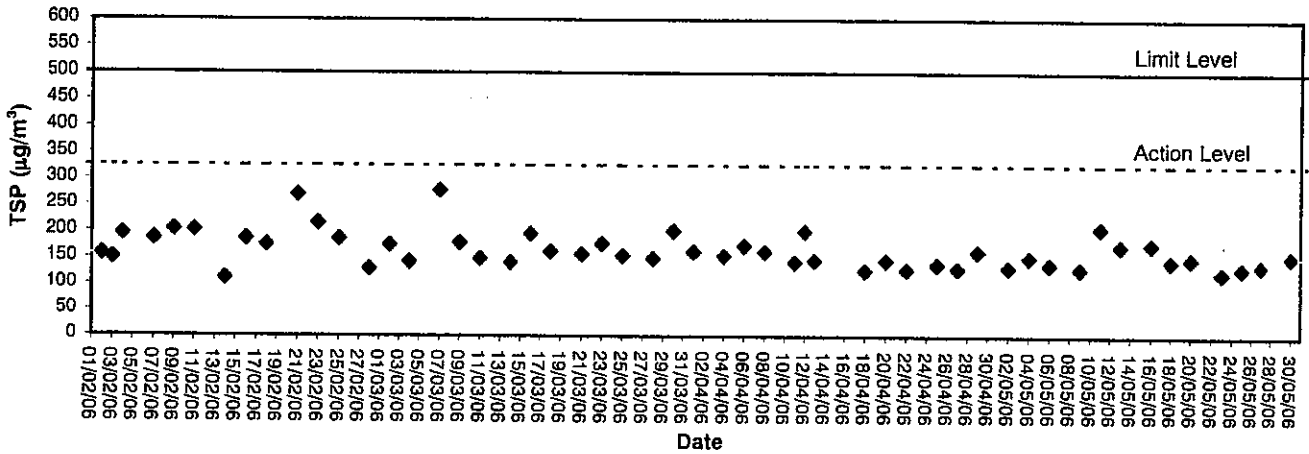


24-hour TSP level at AM5 (Wen Chih Tang at the CUHK)

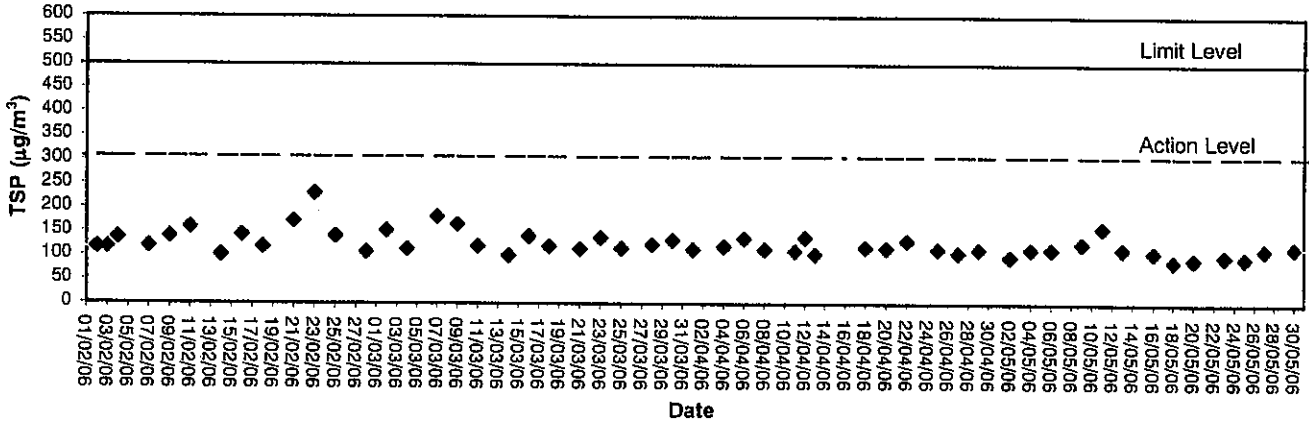




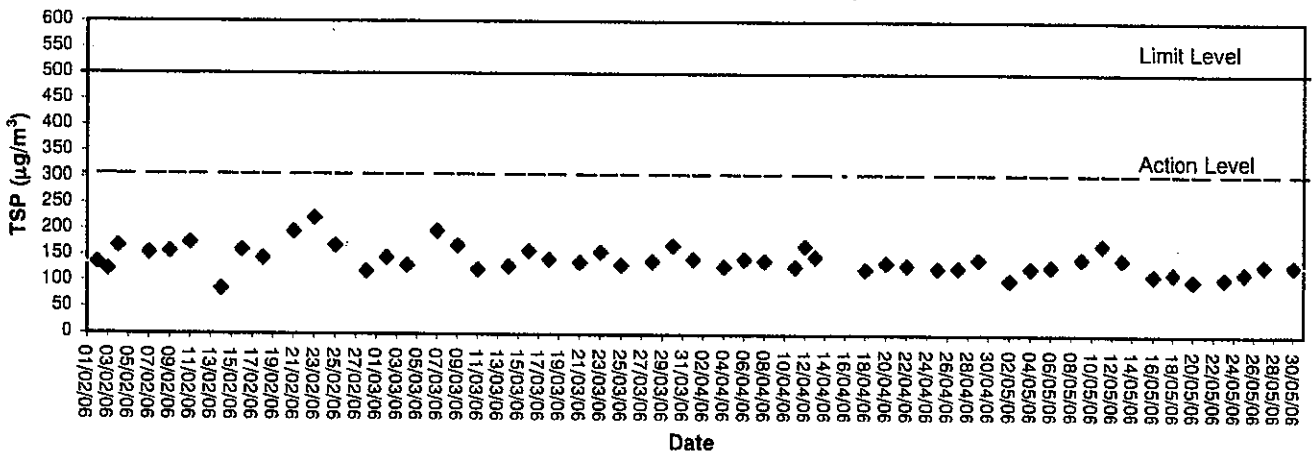
1-hour TSP level at AM1, HKIB Staff Accommodation



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



Calibration Certificate

Certificate No. **61398**

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. : Q60555

Date of receipt : 29-Mar-06

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00110024

Test Conditions

Date of Test : 4-Apr-06

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Z01.

Test Results

All results were within the IEC 651 Type 1 and IEC 804 Type 1 specification.

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

Test equipment used:

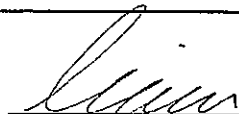
<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S017	Function Generator	C051022	21-Mar-07	HKGSCS
S024	Calibrator	S41431	22-May-06	PRC-NIM

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 :


P.F. Wong

Approved by :


Dorothy Cheuk

Date: 4-Apr-06

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

The copyright of this certificate is owned by Hong Kong Calibration Ltd.. It may not be reproduced except in full.

Calibration Certificate

Certificate No. **61398**

Page 2 of 3 Pages

Results :

1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 – 100	L _A	Fast	94.0	93.8
		Slow		93.8
	L _C	Fast		93.8
	L _p	Fast		93.8
30 – 120	L _A	Fast	94.0	93.8
		Slow		93.7
	L _C	Fast		93.8
	L _p	Fast		93.8
30 – 120	L _A	Fast	113.9	113.8
		Slow		113.7
	L _C	Fast		113.8
	L _p	Fast		113.8

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.2 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.01 dB



Calibration Certificate

Certificate No. 61398

Page 3 of 3 Pages

3. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	- 39.5	- 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	- 8.8	- 8.6 dB, ± 1 dB
500 Hz	- 3.3	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+ 1.2	+ 1.2 dB, ± 1 dB
4 kHz	+ 1.1	+ 1.0 dB, ± 1 dB
8 kHz	- 1.2	- 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	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	40.0	--
1/10	40.0	39.8	± 0.5 dB
1/10 ²	40.0	40.0	
1/10 ³	40.0	40.0	± 1.0 dB
1/10 ⁴	40.0	40.0	

Uncertainty : ± 0.1 dB

- 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.

----- END -----



Calibration Certificate

Certificate No. **61399**

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. : Q60555

Date of receipt : 29-Mar-06

Item Tested

Description : Sound Level Calibrator

Manufacturer : Rion

Model : NC-73

Serial No. : 10644871

Test Conditions

Date of Test : 4-Apr-06

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

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:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S014	Spectrum Analyzer	53024	7-Jul-06	PRC-NIM
S024	Calibrator	S41431	22-May-06	PRC-NIM
S041	Universal Counter	53972	26-Aug-06	HKGSCS

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 : 

P.F. Wong

Approved by : 

Dorothy Cheuk

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: 4-Apr-06



Calibration Certificate

Certificate No. 61399

Page 2 of 2 Pages

Results :

1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value		Mfr's Spec.
	Before Adjust.	After Adjust.	
94 dB	94.7	94.2	± 1 dB

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.984 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. The above measured values are the mean of 3 measurement.

4. Atmospheric Pressure : 1 000 hPa

----- 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 _{eq(30min)}	L10	L90		
02/05/06	09:35	63.2	65.1	60.3	0.8	Cloudy
09/05/06	09:00	63.7	66.3	60.7	1.4	Sunny
16/05/06	08:32	58.0	60.1	55.5	1.0	Cloudy
23/05/06	08:32	59.1	61.1	56.3	1.0	Cloudy
30/05/06	13:05	60.9	62.5	55.9	1.3	Cloudy

Monitoring Location: NM2 (CUHK Residence No.10)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq(30min)}	L10	L90		
02/05/06	11:30	60.8	63.6	56.9	0.7	Cloudy
09/05/06	09:45	61.4	64.0	58.7	1.1	Sunny
16/05/06	11:15	56.9	58.9	54.3	1.3	Cloudy
23/05/06	11:20	57.1	59.2	55.1	0.8	Cloudy
30/05/06	11:20	59.5	61.2	55.8	1.6	Cloudy

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 _{eq(30min)}	L10	L90		
02/05/06	13:22	54.1	58.0	50.9	0.6	Cloudy
09/05/06	13:11	54.5	57.6	51.3	1.1	Sunny
16/05/06	13:02	53.0	55.2	49.7	1.5	Cloudy
23/05/06	13:02	52.9	55.5	49.3	1.3	Cloudy
30/05/06	16:43	57.6	58.6	50.8	0.7	Cloudy

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 _{eq(30min)}	L10	L90		
02/05/06	10:50	59.8	62.5	55.4	1.0	Cloudy
09/05/06	17:05	58.8	61.8	56.0	1.3	Sunny
16/05/06	15:17	56.9	59.4	54.5	1.3	Cloudy
23/05/06	14:42	56.0	58.5	56.1	1.2	Cloudy
30/05/06	10:06	61.4	62.7	56.6	1.4	Cloudy

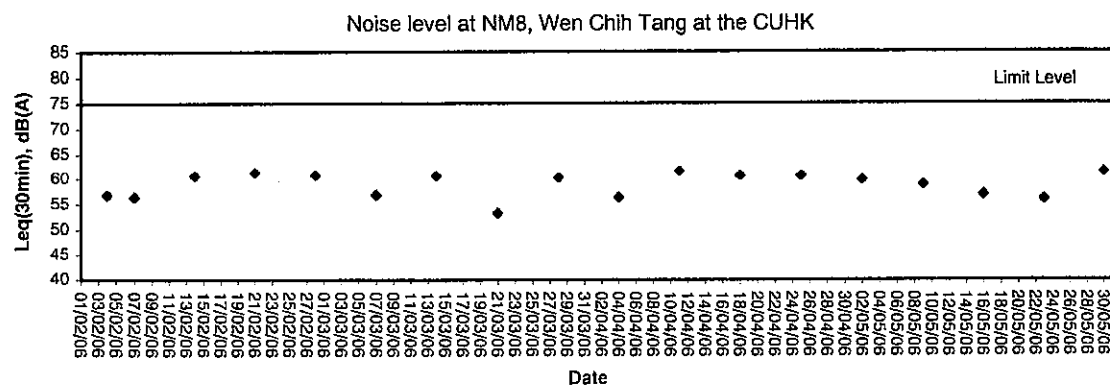
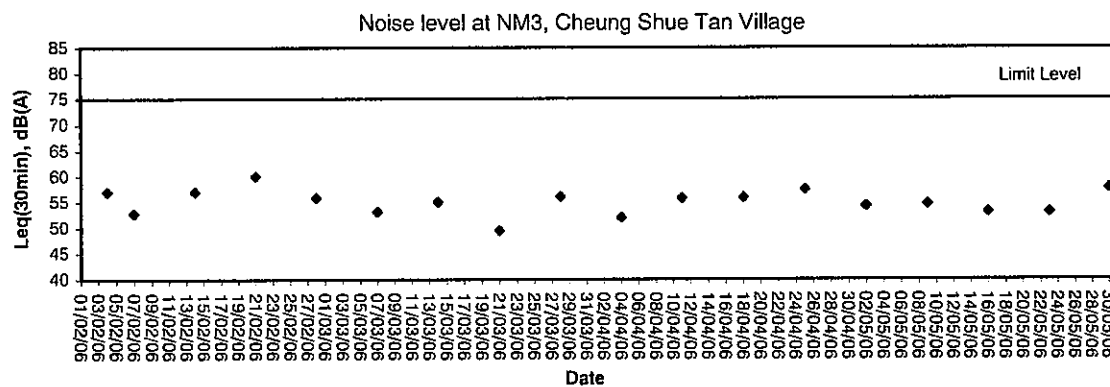
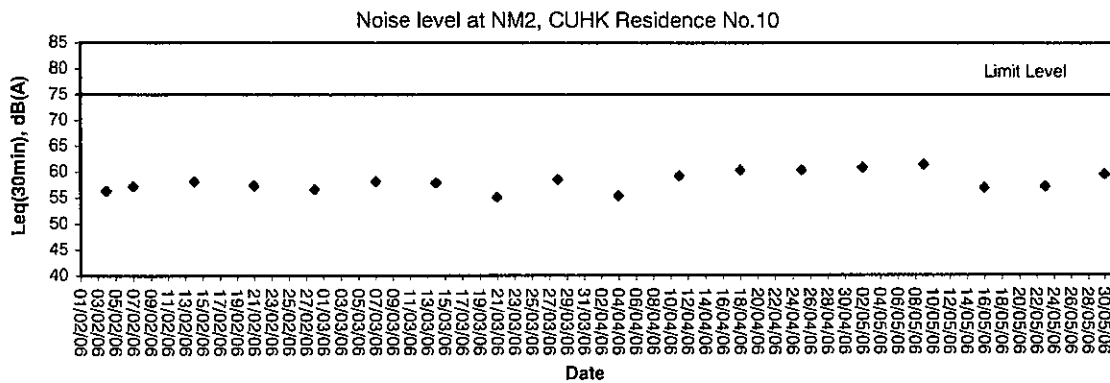
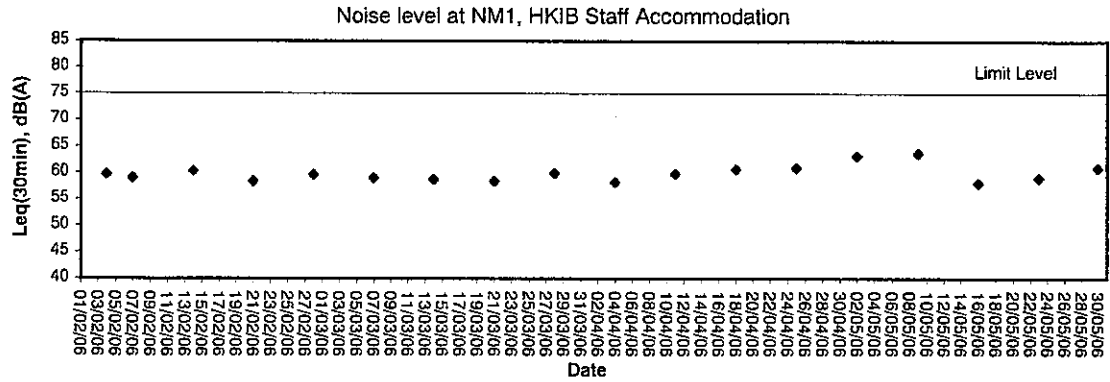


Appendix C3

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)
01/05/06	-	29.8	25.2	83	SW	<5
02/05/06	70.1	29.8	23.3	86	SW	<5
04/05/06	108.2	23.6	21.7	95	NE	<5
04/05/06	0.2	25.1	23.3	91	E	<5
05/05/06	1.3	28.3	24.2	89	S	<5
06/05/06	-	30.3	26.8	78	SW	<5
07/05/06	-	30.2	26.7	79	SW	<5
08/05/06	-	31.5	26.7	79	S	<5
09/05/06	-	31.4	26.4	76	SW	<5
10/05/06	-	31.2	27.2	74	SW	<5
11/05/06	Trace	30.5	25.5	85	E	<5
12/05/06	Trace	29.6	24.6	81	E	<5
13/05/06	Trace	30.9	22.7	75	N	<5
14/05/06	Trace	27.1	20.5	69	N	<5
15/05/06	Trace	27.2	22.6	69	E	<5
16/05/06	1.6	26.3	22.7	76	N	<5
17/05/06	15.0	24.3	21.1	82	N	<5
18/05/06	Trace	28.8	22.6	68	NW	<5
19/05/06	-	29.8	22.9	67	N	<5
20/05/06	1.0	25.7	23.2	85	E	<5
21/05/06	69.7	24.6	22.3	97	E	<5
22/05/06	22.9	26.5	24.5	92	S	<5
23/05/06	30.9	26.7	24.3	95	SW	<5
24/05/06	0.5	25.5	24.5	94	SE	<5
25/05/06	-	28.8	24.8	83	S	<5
26/05/06	Trace	29.8	26.4	80	SW	<5
27/05/06	5.5	27.4	26.0	86	SW	<5
28/05/06	59.7	27.1	23.7	90	SW	<5
29/05/06	4.2	24.4	22.3	84	E	<5
30/05/06	13.0	26.7	22.4	84	E	<5
31/05/06	27.7	28.5	23.7	90	SW	<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	ACTION			
	ET Leader	IC(E)	ER	CNTRACTOR
Action Level 1. Exceedance of one sample 2. Exceedance for two more consecutive samples	1. Identify source 2. Inform IC(E) and ER 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 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. Check monitoring data submitted by ET 2. Check Contractor's working method. 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. Notify Contractor 1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	1. Rectify any unacceptable practice 2. Amend working methods if possible 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 2. Exceedance for two or more consecutive samples	1. Identify source 2. Inform ER and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 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 taken 8. If exceedance stops, cease additional monitoring	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. 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. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IC(E), agreed 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 Contract to stop that portion of work until the exceedance is abated.	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 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	ACTION			CNOTRACTOR
		IC(E)	ER	ER	
Action Level	<ol style="list-style-type: none"> 1. Notify IC(E) and Contractor 2. Carry out investigation 3. Report the results of investigation to the IC(E) and Contractor 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness 	<ol style="list-style-type: none"> 1. Review the analyzed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analyzed noise problem 4. Ensure remedial measures are properly implemented 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposal to IC(E) 2. Implement noise mitigation proposals 	
Limit Level	<ol style="list-style-type: none"> 1. Notify IC(E), ER, and Contractor 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IC(E), ER and EPD the causes & action taken for the exceedances 7. Assess effectiveness of Contractor's remedial action and keep IC(E), EPD and ER informed to the results 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET and Contractor on the 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 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures are properly implemented 5. 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 	<ol style="list-style-type: none"> 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 problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated 	



Appendix F

Construction Programme

ID	Description	Start	Finish	Early Start	Early Finish	Lat	Start	Finish
PC0100	Contract Award	10JUN04 A	10JUN04 A					
PC0200	Project Commencement Date	100 20JUN04 A	20JUN04 A					

ID	Description	Start	Finish	Early Start	Early Finish	Lat	Start	Finish	Notes
PD0100	Zone ZA1, ZA2 & ZU2	100 20JUN04 A	20JUN04 A						Contract Award
PD0200	Zone ZC,ZD,ZE,ZF,ZG & ZU1	100 20JUN04 A	20JUN04 A						Project Commencement Date
PD0210	Part of Zone ZL1, ZM, ZI, ZK, ZR, ZR1 & ZS	100 20JUN04 A	20JUN04 A						Part of Zone ZL1
PD0220	Remaining Zone ZJ	24SEP04 A	24SEP04 A						Remaining Zone ZJ
PD0230	Remaining Zone ZR, ZR1 & ZS	27SEP04 A	27SEP04 A						Remaining Zone ZR, ZR1 & ZS
PD0240	Part of Zone ZL1	15MAR05 A	15MAR05 A						Part of Zone ZL1
PD0250	Remaining Zone ZL1	06SEP05 A	06SEP05 A						Remaining Zone ZL1
PD0300	Zone ZG2 & ZJ2	18AUG04 A	18AUG04 A						Zone ZG2 & ZJ2
PD0310	Part of Zone ZY & ZK	18AUG04 A	18AUG04 A						Part of Zone ZY & ZK
PD0320	Remaining Zone ZY	17SEP04 A	17SEP04 A						Remaining Zone ZY
PD0330	Remaining Zone ZK	08DEC04 A	08DEC04 A						Remaining Zone ZK
PD0400	Zone ZB & ZF	0 70	0 30SEP05 *						Zone ZB & ZF
PD0410	Part of Zone ZE	100 16JUN05 A	16JUN05 A						Part of Zone ZE
PD0420	Remaining Zone ZE	0 286	0 30SEP05 *						Remaining Zone ZE
PD0500	Zone ZG & ZG3	0 8204	0 26SEP05 *						Zone ZG & ZG3
PD0600	Part of Zone ZG1	100 20JAN05 A	20JAN05 A						Part of Zone ZG1
PD0610	Zone ZU3	0 0	0 04OCT04 A						Zone ZU3
PD0620	Remaining Zone ZG1	0 0	02APR05 A						Remaining Zone ZG1
PD0700	Zone ZP	100 02NOV04 A	02NOV04 A						Zone ZP
PD0710	Part of Zone ZH	100 17SEP04 A	17SEP04 A						Part of Zone ZH
PD0720	Part of Zone ZH	100 14MAR05 A	14MAR05 A						Part of Zone ZH
PD0730	Part of Zone ZH	100 08MAR05 A	08MAR05 A						Part of Zone ZH
PD0740	Remaining Zone ZH	0 8200	0 28SEP05 *						Remaining Zone ZH
PD0750	Part of Zone ZH	100 20JUN05 A	20JUN05 A						Part of Zone ZH
PD0800	Zone ZI1	100 14MAR05 A	14MAR05 A						Zone ZI1
PD0810	Part of Zone ZM	100 14MAR05 A	14MAR05 A						Part of Zone ZM
PD0820	Remaining Zone ZM	100 15MAR05 A	15MAR05 A						Remaining Zone ZM
PD0830	Zone ZI5	100 15APR05 A	15APR05 A						Zone ZI5
PD0840	Zone ZJ3 & ZJ4	100 08NOV04 A	08NOV04 A						Zone ZJ3 & ZJ4
PD1000	Part of Zone ZL2	100 15MAR05 A	15MAR05 A						Part of Zone ZL2
PD1010	Remaining Zone ZL2	0 8200	0 28SEP05 *						Remaining Zone ZL2
PD1100	Zone ZG & ZQ1	100 20JUL04 A	20JUL04 A						Zone ZG & ZQ1
PD1200	Zone ZT	0 1300	0 10FEB05 *						Zone ZT
PD1210	Part of Zone ZT1	100 25JAN05 A	25JAN05 A						Part of Zone ZT1
PD1220	Remaining Zone ZT1	0 1420	0 19FEB05 *						Remaining Zone ZT1
PD1230	Zone ZT3	100 28AUG05 A	28AUG05 A						Zone ZT3
PD1300	Zone ZT2	100 25JAN05 A	25JAN05 A						Zone ZT2
PD1400	Demolish Existing Drainpipe in Zone ZY	0 -60	0 26SEP05 *						Demolish Existing Drainpipe in Zone ZY

Legend

- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Session Data

Print date: 10JUN04
 Print time: 2007:07
 User: 26SEP05
 User ID: 17OCT05
 Page number: 1A

Company Information

WALKEE LEADER INC.

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

JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish			
CD0100	Section 1	0	41d	0	06JUN06	10JUL06																
CD0200	Section 2	0	16	0	25DEC06	20DEC06																
CD0300	Section 3	0	24d	0	02DEC06	20DEC06																
CD0400	Section 4	0	39d	0	17NOV06	20DEC06																
CD0500	Section 5	0	-189d	0	10MAY06	24OCT05																
CD0600	Section 6	0	-156d	0	20DEC05	24JUL05																
CD0700	Section 7	0	-112d	0	13JUN06	21FEB06																
CD0800	Section 8	0	30d	0	09OCT06	08NOV06																
CD0900	Section 9	0	68d	0	23OCT06	20DEC06																
CD1000	Section 10	0	132d	0	19AUG06	20DEC06																
CD1100	Section 11	0	-158d	0	27JUL06	18FEB06																
CD1200	Section 12	0	20d	0	17OCT06	06NOV06																
CD1300	Section 13	0	102d	0	15SEP06	20DEC06																
CD1400	Section 14	0	-152d	0	21JUL07	18FEB07																
CD1500	Section 15	0	25d	0	12OCT07	06NOV07																
CD1600	Section 16	0	67d	0	20OCT07	20DEC07																

Submissions			General Submissions	
SUGS0100	Drafted Safety Plan	10JUN04	24JUN04	10JUN04
SUGS0200	Safety Plan	14JUL04	28JUN04	14JUL04
SUGS0300	Sub-Contractor Management Plan (SCMP)	12JUL04	10JUN04	12JUL04
SUGS0400	Drain Waste Management Plan (DWMP)	05JUL04	10JUN04	05JUL04
SUGS0500	Waste Management Plan	02AUG04	28JUN04	02AUG04
SUGS0600	Engineer Approval of WMP	08SEP04	08SEP04	08SEP04
SUGS0700	Layout Plan & Location of Site Office	10JUN04	10JUN04	10JUN04
SUGS0800	Engineer Approval of Site Layout Plan	07JUL04	20AUG04	20AUG04
SUGS0900	Project Signboard Location & Details	10JUL04	12JUL04	10JUL04
SUGS1000	Engineer Approval of Project Signboard Details	13JUL04	19AUG04	19AUG04
SUGS1100	EM&A and EMIS with Baseline Monitoring Record	12JUL04	28JUN04	12JUL04
SUGS1200	Engineer & EPD Consent of EM&A and EMIS	13JUL04	08SEP04	08SEP04
SUGS1300	Initial Works Programme	10JUN04	15JUN04	10JUN04
SUGS1400	Engineer Approval of Initial Works Programme	18JAN05	18JAN05	18JAN05
SUGS1500	Detailed Works Programme	27JAN05	10MAY05	10MAY05
SUGS1600	First Three Month Rolling Programme	10JUN04	15JUN04	10JUN04
SUGS1700	Executive Summary Programme	02MAY05	19MAR05	19MAR05
SUGS1800	Particulars of Environmental Team Leader	10JUN04	24JUN04	24JUN04
SUGS1900	EPD & Engineer Approval of ET Leader	28JUN04	12JUL04	12JUL04
SUGS2000	Overall TTA Scheme & Traffic Management Design	10JUN04	28JUL04	28JUL04
SUGS2100	Comments on Overall TTA Scheme & TMD	30SEP04	30SEP04	30SEP04
SUGS2200	Revised Overall TTA Scheme & TMD	30SEP04	30SEP04	30SEP04

Material Submission		
SUNAO100	Particulars of DI Pipes & Filings	26JUL04
SUNAO200	Engineer Approval of DI Pipes & Filings	04FEB05

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish		
10JUN04	Safety bar																				
20OCT07	Progress bar																				
28SEP05	Critical bar																				
17OCT06	Summary bar																				
2A	Start milestones point																				
2A	Finish milestones point																				

ID No.	Description	Unit	Total	Percent	Early	Final	Start	Finish	Lat	Long	Notes
		Cost	Cost	Complete	Start	Start					
SUA0000	Particulars of Concrete Design Mix	16	100	100	10JUN04	24JUN04	10JUN04	24JUN04	10JUN04	108°50'00"E	Engineer Approval of Concrete Design Mix
SUA0000	Engineer Approval of Concrete Design Mix	23	100	100	25JUN04	05NOV04	25JUN04	05NOV04	108°50'00"E	108°50'00"E	Engineer Approval of Concrete Design Mix
SUA0000	Particulars of Precast Concrete Pipe	12	100	100	10JUN04	24JUN04	10JUN04	24JUN04	108°50'00"E	108°50'00"E	Engineer Approval of Precast Concrete Pipe
SUA0000	Engineer Approval of Precast Concrete Pipe	12	100	100	25JUN04	25JUN04	25JUN04	25JUN04	108°50'00"E	108°50'00"E	Engineer Approval of Precast Concrete Pipe
SUA0000	Glazed Skylight Roof Cover System Details	50	100	100	08SEP04	08NOV04	08SEP04	08NOV04	108°50'00"E	108°50'00"E	Engineer Approval of Precast Concrete Pipe
SUA0000	Engineer Approval of Roof Cover System	72	560	90	08NOV04	06OCT05	08NOV04	12DEC05	108°50'00"E	108°50'00"E	Engineer Approval of Roof Cover System
SUA0000	Sample Panels	50	100	100	08SEP04	08NOV04	08SEP04	08NOV04	108°50'00"E	108°50'00"E	Engineer Approval of Sample Panels
SUA0000	Engineer Approval of Sample Panels	72	560	90	08NOV04	06OCT05	08NOV04	12DEC05	108°50'00"E	108°50'00"E	Engineer Approval of Sample Panels
Method Statement Submissions											
SUME0100	Treatment Work Before Discharge of Effluent	24	100	100	10JUN04	24JUN04	10JUN04	24JUN04	108°50'00"E	108°50'00"E	Treatment Work Before Discharge of Effluent
SUME0200	Engineer Approval of Treatment Work	18	100	100	25JUN04	27NOV04	25JUN04	27NOV04	108°50'00"E	108°50'00"E	Engineer Approval of Treatment Work
SUME0300	Drainage Works	18	100	100	17JUL04	08AUG04	17JUL04	08AUG04	108°50'00"E	108°50'00"E	Drainage Works
SUME0400	Engineer Approval of Drainage Works	24	100	100	07AUG04	31AUG04	07AUG04	31AUG04	108°50'00"E	108°50'00"E	Engineer Approval of Drainage Works
SUME0500	Tree Transplant	24	100	100	02JUL04	30JUL04	02JUL04	30JUL04	108°50'00"E	108°50'00"E	Tree Transplant
SUME0600	Engineer Approval of Tree Transplant	18	100	100	14JUL04	19AUG04	14JUL04	19AUG04	108°50'00"E	108°50'00"E	Engineer Approval of Tree Transplant
SUME0700	Pre-drilling	18	100	100	10JUL04	30JUL04	10JUL04	30JUL04	108°50'00"E	108°50'00"E	Pre-drilling
SUME0800	Engineer Approval of Pre-drilling	12	100	100	31JUL04	28AUG04	31JUL04	28AUG04	108°50'00"E	108°50'00"E	Engineer Approval of Pre-drilling
SUME0900	MLS Bridge Piling Works	18	100	100	18AUG04	20SEP04	18AUG04	20SEP04	108°50'00"E	108°50'00"E	MLS Bridge Piling Works
SUME1000	Engineer Approval of MLS Bridge Piling Works	12	100	100	21SEP04	28FEB05	21SEP04	28FEB05	108°50'00"E	108°50'00"E	Engineer Approval of MLS Bridge Piling Works
SUME1100	MLS Bridge Construction	48	100	100	18NOV04	28NOV04	18NOV04	28NOV04	108°50'00"E	108°50'00"E	MLS Bridge Construction
SUME1200	Engineer Approval of MLS Bridge Construction	12	100	100	28NOV04	04AUG05	28NOV04	04AUG05	108°50'00"E	108°50'00"E	Engineer Approval of MLS Bridge Construction
SUME1300	Construction of Public Toilet No.2	18	100	100	02JUL05	07JUL05	02JUL05	07JUL05	108°50'00"E	108°50'00"E	Construction of Public Toilet No.2
SUME1400	Engineer Approval of Public Toilet No.2	12	360	90	08JUL05	28SEP05	08JUL05	11NOV05	108°50'00"E	108°50'00"E	Engineer Approval of Public Toilet No.2
SUME1500	Construction of Ma Liu Shui Subway	48	100	100	30JUN05	05JUL05	30JUN05	05JUL05	108°50'00"E	108°50'00"E	Construction of Ma Liu Shui Subway
SUME1600	Engineer Approval of MLS Subway	12	100	100	06JUL05	28SEP05	06JUL05	28SEP05	108°50'00"E	108°50'00"E	Engineer Approval of MLS Subway
SUME1700	Retaining Wall No. 1	24	100	100	21JUL05	01AUG05	21JUL05	01AUG05	108°50'00"E	108°50'00"E	Retaining Wall No. 1
SUME1800	Engineer Approval for Retaining Wall No. 1	12	840	90	02AUG05	28SEP05	02AUG05	11JAN06	108°50'00"E	108°50'00"E	Engineer Approval for Retaining Wall No. 1
SUME1900	Construction of Public Landing Step	60	100	100	10JUN04	12JUL04	10JUN04	12JUL04	108°50'00"E	108°50'00"E	Construction of Public Landing Step
SUME2000	Engineer Approval of Public Landing Step	12	100	100	13JUL04	30JUL04	13JUL04	30JUL04	108°50'00"E	108°50'00"E	Engineer Approval of Public Landing Step
SUME2100	Construction of Landscape Nodes P1, P2 & P3	80	100	100	08AUG04	19AUG04	08AUG04	19AUG04	108°50'00"E	108°50'00"E	Construction of Landscape Nodes P1, P2 & P3
SUME2200	Engineer Approval of Construction for P1-3	12	100	100	20AUG04	24AUG04	20AUG04	24AUG04	108°50'00"E	108°50'00"E	Engineer Approval of Construction for P1-3
Alternative Design Submissions											
SUAS0000	Submit & Approve Preliminary Design	36	100	100	18AUG04	28SEP04	18AUG04	28SEP04	108°50'00"E	108°50'00"E	Submit & Approve Preliminary Design
SUAS0100	Submit Preliminary Design to ACABAS	3	100	100	30SEP04	04OCT04	30SEP04	04OCT04	108°50'00"E	108°50'00"E	Submit Preliminary Design to ACABAS
SUAS0200	ACABAS Approval	1	100	100	19OCT04	19OCT04	19OCT04	19OCT04	108°50'00"E	108°50'00"E	ACABAS Approval
SUAS0300	Detail Design	50	100	100	20OCT04	20JAN05	20OCT04	20JAN05	108°50'00"E	108°50'00"E	Detail Design
SUAS0400	Check by ICE	29	100	100	22DEC04	28JUN05	22DEC04	28JUN05	108°50'00"E	108°50'00"E	Check by ICE
SUAS0500	Submit Detail Design to the Engineer	0	100	100	23DEC04	28JUN05	23DEC04	28JUN05	108°50'00"E	108°50'00"E	Submit Detail Design to the Engineer
SUAS0600	Engineer Approval of Details Design	29	100	100	23DEC04	28JUN05	23DEC04	28JUN05	108°50'00"E	108°50'00"E	Engineer Approval of Details Design
SUAS0700	Comment / Agreement from HyD Structure	23	100	100	31DEC04	18JUL05	31DEC04	18JUL05	108°50'00"E	108°50'00"E	Comment / Agreement from HyD Structure
SUAS0800	Comment / Agreement from GEO	11	100	100	31DEC04	25JAN05	31DEC04	25JAN05	108°50'00"E	108°50'00"E	Comment / Agreement from GEO
SUAS0900	Comment / Agreement from DLO, DSD, TD	17	100	100	31DEC04	18JUL05	31DEC04	18JUL05	108°50'00"E	108°50'00"E	Comment / Agreement from DLO, DSD, TD
SUAS1000	Engineer Approval of A.D. Founding Level	12	100	100	21APR05	28APR05	21APR05	28APR05	108°50'00"E	108°50'00"E	Engineer Approval of A.D. Founding Level

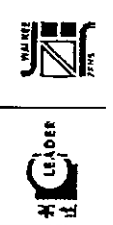
Legend
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

10JUN04
 20OCT04
 28SEP05
 17OCT05
 3AUG05

Primavera Systems, Inc.



ID	Description	Start	Finish	Start	Finish	Start	Finish
SUASS01000	CEDD Approval of A.D.	100	31DEC04	26JUL05	31DEC04	26JUL05	31DEC04
SUASS01000	Submit & Approve Preliminary Design	100	18AUG04	28SEP04	18AUG04	28SEP04	18AUG04
SUASS02000	Submit Preliminary Design to ACABAS	100	30SEP04	04OCT04	30SEP04	04OCT04	30SEP04
SUASS03000	ACABAS Approval	100	19OCT04	19OCT04	19OCT04	19OCT04	19OCT04
SUASS04000	Aesthetic Review	100	20OCT04	12JAN05	20OCT04	12JAN05	20OCT04
SUASS05000	ACABAS Submission (Landscape)	100	23MAY05	23MAY05	23MAY05	23MAY05	23MAY05
SUASS06000	Detail Design	100	18MAY05	28MAY05	18MAY05	28MAY05	18MAY05
SUASS07000	Submit Detail Design to the Engineer	100	27MAY05	27MAY05	27MAY05	27MAY05	27MAY05
SUASS08000	Engineer Approval	100	28MAY05	28MAY05	28MAY05	28MAY05	28MAY05
SUASS09000	CEDD Approval of A.D.	100	28JUL05	28JUL05	28JUL05	28JUL05	28JUL05
Utilities							
Contractor's Site Accommodation							
PRCS0100	Mobilization	100	28JUN04	10JUL04	28JUN04	10JUL04	10JUL04
PRCS0200	Erect Contractor Site Office	100	12JUL04	31JUL04	12JUL04	31JUL04	31JUL04
Preliminary Works							
PRPR0300	Arrange ULG Meeting	60	28JUN04	18JUL04	28JUN04	18JUL04	18JUL04
PRPR0400	Arrange TM&G Meeting	48	28JUN04	23JUL04	28JUN04	23JUL04	23JUL04
PRPR0500	Tree Survey	6	28JUN04	08AUG04	28JUN04	08AUG04	08AUG04
PRPR0600	Engineer Approval of Tree Survey	12	07AUG04	30AUG04	07AUG04	30AUG04	30AUG04
PRPR0700	Tree Transplant	24	31AUG04	31AUG04	31AUG04	31AUG04	31AUG04
PRPR1000	Tree Felling	12	30AUG04	30AUG04	30AUG04	30AUG04	30AUG04
PRPR1100	Procure Third Party Insurance	12	10JUN04	28JUN04	10JUN04	28JUN04	28JUN04
PRPR1200	Erect Project Sign Board	18	20AUG04	12MAY05	20AUG04	12MAY05	20AUG04
PRPR1400	1st Site Safety & Environmental Committee Meeting	24	100	28JUN04	28JUN04	28JUN04	28JUN04
PRPR1500	1st SSEMC Meeting	24	27JUL04	27JUL04	27JUL04	27JUL04	27JUL04
PRPR1600	Propose Location of Temporary Landing Facilities	24	100	10JUN04	10JUN04	10JUN04	10JUN04
PRPR1700	Engineer Approval the Temp Landing Location	12	100	27JUL04	17AUG04	27JUL04	17AUG04
PRPR1800	Provide Temp Landing Facilities	15	100	18AUG04	19AUG04	18AUG04	19AUG04
PRPR1810	Engineer Revise Dredging Plan to EPD	11	100	08SEP04	08SEP04	08SEP04	08SEP04
PRPR1900	Apply Dumping Permit	18	100	08JUL04	08JUL04	08JUL04	08JUL04
PRPR2000	Approval of Dumping Permit	42	100	09JUL04	15MAR05	09JUL04	15MAR05
PRPR2100	Propose Accurate Position Control at Disposal	6	100	25AUG04	25OCT04	25AUG04	25OCT04
PRPR2200	Engineer Approval of Proposal	12	100	28DEC04	28DEC04	28DEC04	28DEC04
PRPR2300	Provide Water Quality Monitoring Equipment	21	100	10JUN04	11OCT04	10JUN04	11OCT04
PRPR2400	Initial Sounding Plan	12	100	13SEP04	16SEP04	13SEP04	16SEP04
PRPR2500	Ordering of Precast Concrete Pipes	700	100	10JUL04	10JUL04	10JUL04	10JUL04
PRPR2600	Ordering DI Pipes and Fittings	1	100	08FEB05	08FEB05	08FEB05	08FEB05
PRPR2700	Concrete Trial Mix	8	100	13JUL04	22JUL04	13JUL04	22JUL04
PRPR2800	Manufacture & Delivery of Seawall Blocks	220	-876	70	18DEC04	18DEC04	20AUG05
1831019							
Section B							
MSS50100	Complete Laying of Utilities	0	-1586	0	08JAN05	31JUL05	31JUL05
Section 7							
10JUN04	10JUN04	20OCT07	28SEP05	17OCT05	4A		
10JUN04	20OCT07	28SEP05	17OCT05	4A			
10JUN04	20OCT07	28SEP05	17OCT05	4A			
10JUN04	20OCT07	28SEP05	17OCT05	4A			
10JUN04	20OCT07	28SEP05	17OCT05	4A			
10JUN04	20OCT07	28SEP05	17OCT05	4A			



o Complete Laying of Utilities
 o Manufacture & Delivery of Seawall Blocks

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

Primavera Systems, Inc.
 Legend:
 - Ready bar
 - Progress bar
 - Critical bar
 - Summary bar
 - Start milestone point
 - Finish milestone point

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1AMPK0100	Construct Dwarf Wall (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1AMPK0200	Construct Dwarf Wall (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1AMPK0300	Construct Edging Beam (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1AMPK0400	Construct Edging Beam (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1AMPK0500	Lighting Drawpit & Cable Duct (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1AMPK0600	Lighting Drawpit & Cable Duct (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1AMPK0700	Paving Block (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1AMPK0800	Paving Block (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1CTEA0100	Remove Ext Surcharge Mound	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTDW0100	Decide Erect Location of Manholes & Catchpits	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTDW0200	S488 - Existing Box Culvert	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTDW0300	S481 - Existing Box Culvert	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTDW0400	S480 - Existing Box Culvert	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTDW0500	S487 - S/Ses	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT0500	CLP - 11KV Cable (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT0600	CLP - 11KV Cable (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT0700	CATV - 2 ways Cable TV Duct (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT0800	CATV - 2 ways Cable TV Duct (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT0900	CATV - Cable Connection	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT1000	Watermain - 250 Dia (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT1100	Watermain - 250 Dia (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT1200	Watermain - Testing and Connection of 300 Dia	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT1300	Watermain - Testing and Connection of 250 Dia	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT1400	Watermain - Testing and Connection of 250 Dia	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTUT1500	Install Public Lighting Post	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1CTPR0100	Construct Dwarf Wall (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0200	Construct Dwarf Wall (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0300	Lay Kerb (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0400	Lay Kerb (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0500	Lighting Drawpit & Cable Duct (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0600	Lighting Drawpit & Cable Duct (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0700	Trim Formation & Lay Subbase (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0800	Trim Formation & Lay Subbase (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR0900	Lay Cycle Track Pavement (South Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTPR1000	Lay Cycle Track Pavement (North Section)	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTRM0100	Apply Road Marking	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTRM0200	Erect Signage	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTRM0300	Install Railing, Fencing & etc	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1CTRM0400	Apply Road Marking	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTRM0500	Erect Signage	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				
A1CTRM0600	Install Railing, Fencing & etc	01/20/06	17/MAR/06	17/MAR/06	13/JUN/06				

Item ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A27TMS0100	TTA No. 01 - Sul Cheung St. (S/B Slow Lane)	01FEB06	13FEB06	07MAR06	07MAR06	07MAR06	07MAR06	07MAR06	07MAR06
A27TMS0200	TTA No. 02 - Sul Cheung St. (S/B Fast Lane)	01FEB06	21APR06	17MAY06	17MAY06	17MAY06	17MAY06	17MAY06	17MAY06
A27TMS0300	TTA No. 03 - Existing Ma Liu Shui Bridge	01FEB06	27MAY06	22JUL06	22JUL06	22JUL06	22JUL06	22JUL06	22JUL06
A27TMS0400	TTA No. 04 - Cycle Track	01FEB06	28MAY06	05JUN06	05JUN06	05JUN06	05JUN06	05JUN06	05JUN06
A27TMS0500	TTA No. 05 - Sul Cheung St. Roundabout	01FEB06	01JUN06	28SEP06	28SEP06	28SEP06	28SEP06	28SEP06	28SEP06
A27TMS0600	TTA No. 06 - Sul Cheung St. Roundabout	01FEB06	01JUN06	20OCT06	20OCT06	20OCT06	20OCT06	20OCT06	20OCT06
A27TMS0700	TTA No. 07 - Sul Cheung St. Roundabout	01FEB06	01JUL06	16NOV06	16NOV06	16NOV06	16NOV06	16NOV06	16NOV06
A27TMS0800	TTA No. 08 - Sul Cheung St. & EMLSB	01FEB06	01AUG06	28AUG06	28AUG06	28AUG06	28AUG06	28AUG06	28AUG06
A27TMS0900	TTA No. 09 - Road D1 & Sul Cheung St. R/A	01FEB06	02DEC06	04DEC06	04DEC06	04DEC06	04DEC06	04DEC06	04DEC06
A27TMS1000	Implement Permanent Traffic Scheme	01FEB06	02DEC06	25DEC06	25DEC06	25DEC06	25DEC06	25DEC06	25DEC06

Item ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A27TMS1100	Quality Diversion at Sul Cheung Street	12	100	18AUG04	06SEP04	18AUG04	06SEP04	18AUG04	06SEP04
A27TMS1200	Trial Pile	30	100	23AUG04	17SEP04	23AUG04	17SEP04	23AUG04	17SEP04
A27TMS1300	Liaison with CLP & WSD for Diversion Works	24	100	16SEP04	23SEP04	16SEP04	23SEP04	16SEP04	23SEP04
A27TMS1400	Submit TTA for Approval	1	100	03NOV04	03NOV04	03NOV04	03NOV04	03NOV04	03NOV04
A27TMS1500	Implement TTA	21	100	10JAN05	19JAN05	10JAN05	19JAN05	10JAN05	19JAN05
A27TMS1600	CLP 11KV Cables Diversion	11	100	28DEC04	06JAN05	28DEC04	06JAN05	28DEC04	06JAN05
A27TMS1700	CLP 132KV Cable Ducts Diversion	30	100	08NOV04	11JAN05	08NOV04	11JAN05	08NOV04	11JAN05
A27TMS1800	Watermain Diversion & Advance Notice to WSD	16	100	22JAN05	22JAN05	22JAN05	22JAN05	22JAN05	22JAN05
A27TMS1900	Watermain Connection by WSD	24	130	08DEC05	06JAN06	08DEC05	06JAN06	08DEC05	06JAN06

Item ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A27TMS2000	Existing Structure Survey	12	100	07JUL04	20JUL04	07JUL04	20JUL04	07JUL04	20JUL04
A27TMS2100	Existing Bridge & Road Survey	12	100	16AUG04	23AUG04	16AUG04	23AUG04	16AUG04	23AUG04
A27TMS2200	Submit Monitoring Proposal	12	100	21AUG04	30AUG04	21AUG04	30AUG04	21AUG04	30AUG04
A27TMS2300	Engineer Approval of Monitoring Proposal	1	100	28AUG04	28AUG04	28AUG04	28AUG04	28AUG04	28AUG04
A27TMS2400	Submit the Coordinates of Culvert	46	100	25SEP04	11NOV04	25SEP04	11NOV04	25SEP04	11NOV04
A27TMS2500	Predrilling (Voided Abutment)	30	100	23OCT04	23OCT04	23OCT04	23OCT04	23OCT04	23OCT04
A27TMS2600	Predrilling (Pier)	24	100	27AUG04	24SEP04	27AUG04	24SEP04	27AUG04	24SEP04
A27TMS2700	Predrilling (North Abutment)	12	100	01APR05	20APR05	01APR05	20APR05	01APR05	20APR05
A27TMS2800	Submit Proposed Founding Level (Voided Abut.)	12	100	21APR05	21APR05	21APR05	21APR05	21APR05	21APR05
A27TMS2900	Engineer Approve Founding Level (Voided Abut.)	6	100	01APR05	20APR05	01APR05	20APR05	01APR05	20APR05
A27TMS3000	Submit Proposed Founding Level (Pier)	12	100	21APR05	20APR05	21APR05	20APR05	21APR05	20APR05
A27TMS3100	Engineer Approval of Founding Level (Pier)	6	100	01APR05	20APR05	01APR05	20APR05	01APR05	20APR05
A27TMS3200	Submit Proposed Founding Level (N-Abutment)	6	100	01APR05	20APR05	01APR05	20APR05	01APR05	20APR05
A27TMS3300	Engineer Approval of Founding Level (N-Abutment)	12	100	21APR05	20APR05	21APR05	20APR05	21APR05	20APR05
A27TMS3400	Submit Proposed Founding Level (N-Abutment)	100	464	16OCT05	27JUN05	16OCT05	27JUN05	16OCT05	27JUN05

Item ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A27TMS3500	Preloading at North Abutment & Up Ramp	6	100	08AUG05	22AUG05	08AUG05	22AUG05	08AUG05	22AUG05
A27TMS3600	Mobilization of Piling Plants	88	16	23AUG05	07DEC05	23AUG05	07DEC05	23AUG05	07DEC05
A27TMS3700	Construct Pile AV1-AV17	36	244	02SEP05	10NOV05	02SEP05	10NOV05	02SEP05	10NOV05
A27TMS3800	Construct Pier Pile P1-P12	24	244	01NOV05	06DEC05	01NOV05	06DEC05	01NOV05	06DEC05
A27TMS3900	Construct N-Abutment Pile AN1-AN6	24	16	06DEC05	06JAN06	06DEC05	06JAN06	06DEC05	06JAN06
A27TMS4000	Load Test at Voided Abutment & Pier (Optional)	24	244	07JAN06	07FEB06	07JAN06	07FEB06	07JAN06	07FEB06
A27TMS4100	Load Test at North Abutment (Optional)	12	136	07JAN06	20JAN06	07JAN06	20JAN06	07JAN06	20JAN06
A27TMS4200	Construct Ground Beams (Stage 1)	12	136	02JAN06	06FEB06	02JAN06	06FEB06	02JAN06	06FEB06
A27TMS4300	Construct Ground Beams (Stage 2)	12	136	02JAN06	06FEB06	02JAN06	06FEB06	02JAN06	06FEB06

Item ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A27TMS4400	Early bar	100	100	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07
A27TMS4500	Progress bar	100	100	20SEP05	20SEP05	20SEP05	20SEP05	20SEP05	20SEP05
A27TMS4600	Critical bar	100	100	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05
A27TMS4700	Summary bar	100	100	7A	7A	7A	7A	7A	7A
A27TMS4800	Start milestone point	100	100	7A	7A	7A	7A	7A	7A
A27TMS4900	Finish milestone point	100	100	7A	7A	7A	7A	7A	7A

Division of Ext. Drainage at VA (VO053B)
 Division of Ext. Drainage at VA (VO053B)
 Division of Ext. Drainage at VA (VO053B)

TTA No. 01 - Sul Cheung St. (S/B Slow Lane)
 TTA No. 02 - Sul Cheung St. (S/B Fast Lane)
 TTA No. 03 - Existing Ma Liu Shui Bridge
 TTA No. 04 - Cycle Track
 TTA No. 05 - Sul Cheung St. Roundabout
 TTA No. 06 - Sul Cheung St. Roundabout
 TTA No. 07 - Sul Cheung St. Roundabout
 TTA No. 08 - Sul Cheung St. Roundabout
 TTA No. 09 - Road D1 & Sul Cheung St. R/A
 TTA No. 10 - Implement Permanent Traffic Scheme

TTA No. 11 - Quality Diversion at Sul Cheung Street
 TTA No. 12 - Existing Bridge & Road Survey
 TTA No. 13 - Submit Monitoring Proposal
 TTA No. 14 - Engineer Approval of Monitoring Proposal
 TTA No. 15 - Submit the Coordinates of Culvert
 TTA No. 16 - Predrilling (Voided Abutment)
 TTA No. 17 - Predrilling (Pier)
 TTA No. 18 - Predrilling (North Abutment)
 TTA No. 19 - Submit Proposed Founding Level (Voided Abut.)
 TTA No. 20 - Engineer Approve Founding Level (Voided Abut.)
 TTA No. 21 - Submit Proposed Founding Level (Pier)
 TTA No. 22 - Engineer Approval of Founding Level (Pier)
 TTA No. 23 - Submit Proposed Founding Level (N-Abutment)
 TTA No. 24 - Engineer Approval of Founding Level (N-Abutment)
 TTA No. 25 - Preloading at North Abutment & Up Ramp
 TTA No. 26 - Mobilization of Piling Plants
 TTA No. 27 - Construct Pile AV1-AV17
 TTA No. 28 - Construct Pier Pile P1-P12
 TTA No. 29 - Construct N-Abutment Pile AN1-AN6
 TTA No. 30 - Load Test at Voided Abutment & Pier (Optional)
 TTA No. 31 - Load Test at North Abutment (Optional)
 TTA No. 32 - Construct Ground Beams (Stage 1)
 TTA No. 33 - Construct Ground Beams (Stage 2)

TTA No. 34 - Early bar
 TTA No. 35 - Progress bar
 TTA No. 36 - Critical bar
 TTA No. 37 - Summary bar
 TTA No. 38 - Start milestone point
 TTA No. 39 - Finish milestone point

C Primavera Systems, Inc.

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

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A2MBVA0200	Construct Ground Beams (Stage 3)	12	1d	07JAN06	20JAN06	06JAN06	21JAN06	06JAN06	21JAN06
A2MBVA0300	Construct Ground Beams (Stage 4)	12	1d	07JAN06	08FEB06	23JAN06	07FEB06	07FEB06	07FEB06
A2MBVA0400	Construct Ground Beams (Stage 5)	12	21d	07FEB06	20FEB06	03MAR06	16MAR06	16MAR06	16MAR06
A2MBVA0500	Construct Wall (Stage 1)	16	13d	07FEB06	27FEB06	27FEB06	14MAR06	14MAR06	14MAR06
A2MBVA0600	Construct Wall (Stage 2)	16	13d	28FEB06	20MAR06	15MAR06	05APR06	05APR06	05APR06
A2MBVA0700	Construct Wall (Stage 3)	16	1d	07FEB06	24FEB06	09FEB06	25FEB06	25FEB06	25FEB06
A2MBVA0800	Construct Wall (Stage 4)	16	1d	25FEB06	15MAR06	27FEB06	16MAR06	16MAR06	16MAR06
A2MBVA1000	Construct Wall (Stage 5)	16	1d	16MAR06	03APR06	17MAR06	05APR06	05APR06	05APR06
A2MBVA1100	Construct Slab	36	87d	05APR06	17MAY06	24JUN06	05AUG06	05AUG06	05AUG06
A2MBPA0100	Construct Pile Cap	12	40d	07JAN06	20JAN06	25FEB06	10MAR06	10MAR06	10MAR06
A2MBPA0200	Construct Columns	21	40d	21JAN06	18FEB06	11MAR06	05APR06	05APR06	05APR06
Walls/Abutment									
A2MBQA0100	Construct RE Wall to Formation of Abutment	18	24d	06JAN06	28JAN06	06FEB06	28FEB06	28FEB06	28FEB06
A2MBQA0200	Construct RE Wall to Formation of RC Wall Type A	36	33d	01FEB06	14MAR06	11MAR06	22APR06	22APR06	22APR06
A2MBQA0300	Fix RE Wall to Face of Abutment & RC Wall	36	27d	13APR06	25MAY06	16MAY06	27JUN06	27JUN06	27JUN06
A2MBQA1100	Construct Pile Cap	18	24d	01FEB06	21FEB06	01MAR06	21MAR06	21MAR06	21MAR06
A2MBQA1200	Construct Abutment Walls	24	24d	22FEB06	21MAR06	23MAR06	19APR06	19APR06	19APR06
A2MBQA1300	Construct RC Wall Type A	36	27d	22MAR06	04MAY06	21APR06	06JUN06	06JUN06	06JUN06
A2MBQA1400	Construct RC Wall Type B	36	33d	01FEB06	14MAR06	11MAR06	22APR06	22APR06	22APR06
A2MBQA1500	Construct RC Wall Type C	18	33d	16MAR06	08APR06	24APR06	18MAY06	18MAY06	18MAY06
Bridge Deck - Vertical Abutment to Pier									
A2MBDA0100	Erect Scaffolding	18	1d	05APR06	25APR06	06APR06	26APR06	26APR06	26APR06
A2MBDA0200	Erect Formwork (Bottom Slab)	12	1d	20APR06	10MAY06	27APR06	11MAY06	11MAY06	11MAY06
A2MBDA0300	Steel Fixing	8	13d	11MAY06	19MAY06	26MAY06	05JUN06	05JUN06	05JUN06
A2MBDA0400	Erect Formwork (Ricker)	8	13d	20MAY06	29MAY06	06JUN06	14JUN06	14JUN06	14JUN06
A2MBDA0500	Concreting	1	13d	30MAY06	30MAY06	15JUN06	15JUN06	15JUN06	15JUN06
A2MBDA0600	Erect Formwork (Diaphragm & Top Slab)	10	13d	01JUN06	12JUN06	18JUN06	27JUN06	27JUN06	27JUN06
A2MBDA0700	Steel Fixing	8	13d	13JUN06	21JUN06	26JUN06	07JUL06	07JUL06	07JUL06
A2MBDA0800	Concreting	1	13d	22JUN06	22JUN06	08JUL06	08JUL06	08JUL06	08JUL06
A2MBDA0900	Install, Stress Tendons & Grouting	24	1d	08JUL06	04AUG06	10JUL06	05AUG06	05AUG06	05AUG06
A2MBDA1000	Remove Formwork & Scaffolding	8	45d	12AUG06	21AUG06	04OCT06	13OCT06	13OCT06	13OCT06
A2MBDA1100	Construct Parapet	70	1d	05AUG06	26OCT06	07AUG06	27OCT06	27OCT06	27OCT06
A2MBDA1200	Construct Centre Bench	36	1d	21SEP06	03NOV06	23SEP06	04NOV06	04NOV06	04NOV06
Bridge Deck - Pier to Next Abutment									
A2MBDC0100	Erect Scaffolding	18	24d	22MAR06	12APR06	20APR06	11MAY06	11MAY06	11MAY06
A2MBDC0200	Erect Formwork (Bottom Slab)	12	1d	11MAY06	24MAY06	12MAY06	25MAY06	25MAY06	25MAY06
A2MBDC0300	Steel Fixing	8	1d	25MAY06	03JUN06	26MAY06	05JUN06	05JUN06	05JUN06
A2MBDC0400	Erect Formwork (Ricker)	8	1d	05JUN06	13JUN06	06JUN06	14JUN06	14JUN06	14JUN06
A2MBDC0500	Concreting	1	1d	14JUN06	14JUN06	15JUN06	15JUN06	15JUN06	15JUN06
A2MBDC0600	Erect Formwork (Diaphragm & Top Slab)	10	1d	15JUN06	26JUN06	16JUN06	27JUN06	27JUN06	27JUN06
A2MBDC0700	Steel Fixing	8	1d	27JUN06	06JUL06	28JUN06	07JUL06	07JUL06	07JUL06
A2MBDC0800	Concreting	1	1d	07JUL06	07JUL06	08JUL06	08JUL06	08JUL06	08JUL06
A2MBDC0900	Install, Stress Tendons & Grouting	24	1d	08JUL06	04AUG06	10JUL06	05AUG06	05AUG06	05AUG06
A2MBDC1000	Remove Formwork & Scaffolding	8	30d	19AUG06	28AUG06	04OCT06	13OCT06	13OCT06	13OCT06
A2MBDC1100	Construct Parapet	70	1d	05AUG06	26OCT06	07AUG06	27OCT06	27OCT06	27OCT06

Legend:
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

Legend:
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

ACT ID	Description	Qty	Total Dur	Start	Early Finish	Early Start	Late Start
AZMBR0100	Construct Carriway Barrier	30	1d	25SEP06	08NOV06	08NOV06	04NOV06
AZMBR0100	Install Drainage System	18	7d	05OCT06	26OCT06	26OCT06	04NOV06
AZMBR0200	Install Aluminium Rail	18	7d	05OCT06	26OCT06	26OCT06	04NOV06
AZMBR0300	Install Public Lighting Post	12	13d	01OCT06	10NOV06	10NOV06	25NOV06
AZMBR0400	Soffit Lighting	6	45d	05AUG06	11AUG06	27SEP06	03OCT06
AZMBR0500	North Abutment - Backfill to Formation	40	98d	06APR06	23MAY06	03AUG06	19SEP06
AZMBR0600	North Abutment - Lay Subbase	6	98d	03JUN06	10JUL06	20OCT06	04NOV06
AZMBR0700	Road Pavement	18	1d	04NOV06	24NOV06	08NOV06	25NOV06
AZMBR0800	Apply Road Marking	6	1d	01NOV06	01DEC06	27NOV06	02DEC06
AZMBR0900	Erect Signage	12	1d	01NOV06	24NOV06	19NOV06	25NOV06
AZREEA0100	Remove Ext Surcharge Mound	22	45d	02OCT06	17NOV06	19DEC06	11JAN06
AZREWA0100	Bay 1	18	45d	01BNOV06	09DEC06	12JAN06	01FEB06
AZREWA0200	Bay 2	14	45d	07DEC06	22DEC06	02FEB06	17FEB06
AZREWA0300	Bay 3	14	45d	03DEC06	10JAN06	18FEB06	08MAR06
AZREWA0400	Bay 4	14	45d	01JAN06	20JAN06	07MAR06	22MAR06
AZREWA0500	Bay 5	14	47d	01NOV06	03DEC06	14JAN06	01FEB06
AZREWA0600	Bay 6	14	47d	05DEC06	20DEC06	02FEB06	17FEB06
AZREWA0700	Bay 7	14	47d	02DEC06	07JAN06	18FEB06	08MAR06
AZREWA0800	Bay 8	14	47d	06JAN06	24JAN06	07MAR06	22MAR06
AZREWA0900	Bay 9	14	28d	02DEC06	12JAN06	02FEB06	17FEB06
AZREWA1000	Bay 10	14	28d	01JAN06	20JAN06	18FEB06	08MAR06
AZREWA1100	Bay 11	14	28d	01FEB06	16FEB06	07MAR06	22MAR06
AZREWA1200	Filling to Road Formation Levels	20	28d	06FEB06	26FEB06	11MAR06	03APR06
AZRDWH0100	Decide Exact Location of Manholes & Catchpits	1	123d	03SEP06	30SEP06	28FEB06	28FEB06
AZRDWH0200	S615 - S705	36	5d	01FEB06	25MAR06	18FEB06	31MAR06
AZRDWH0300	S626 - S628	31	66d	02MAY06	26JUN06	19SEP06	25OCT06
AZRDWH0400	S616 - S629	24	85d	01MAR06	26MAR06	12JUN06	10JUL06
AZRDWH0500	S698 - S710	27	56d	02DEC06	23JAN06	01MAR06	31MAR06
AZRDWH0600	S610A - S610 (TTA No. 01)	20	18d	01FEB06	08MAR06	08MAR06	30MAR06
AZRDWH0700	S610 - S710 (TTA No. 04)	22	26d	03MAY06	24JUN06	30JUN06	26JUL06
AZRDWH0800	Replace 600 Pipe by 600 Pipe (TTA No. 04)	20	20d	03MAY06	22JUN06	23JUN06	17JUL06
AZRDWH0900	Reconstruct Ext MH w/ 1800 Chamber (TTA No. 08)	22	31d	02AUG06	15SEP06	27SEP06	23OCT06
AZRDWH1000	Construct Gutters to Existing Pipe (TTA No. 08)	18	5d	02SEP06	02OCT06	18SEP06	06OCT06
AZRDUT0100	NWT & HGC - Laying Cable Duct	17	5d	01MAR06	15APR06	01APR06	21APR06
AZRDUT0200	NWT & HGC Cable Connection	27	13d	01APR06	18MAY06	03JUN06	03JUN06
AZRDUT0300	WT&T - Laying Cable Duct	17	5d	01APR06	08MAY06	22APR06	12MAY06
AZRDUT0400	WT&T - Cable Connection	26	17d	08MAY06	07JUN06	27NOV06	20DEC06
AZRDUT0500	PCCW - Laying Cable Duct	40	5d	01APR06	03JUN06	22APR06	06JUN06
AZRDUT0600	PCCW - Cable Connection	28	147d	05JUN06	05JUL06	27NOV06	28DEC06

Legend

- █ Early bar
- █ Progress bar
- █ Critical bar
- █ Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

Summary

Start Date	10.3.06
Finish Date	30.07.07
Start Date	28.09.06
Run Date	17.02.07
Page number	5A

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ID	Description	Qty	Unit	Start	Finish	Start	Finish	Start	Finish
AZRDUT0600	Watermain - Laying FW Main Crossing	12	50	01/27/06	10/14/06	01/27/06	10/14/06	01/27/06	10/14/06
AZRDUT0700	Watermain - Laying FW Main Crossing	8	200	01/23/06	03/07/06	01/23/06	03/07/06	01/23/06	03/07/06
AZRDUT0800	Watermain - Replaces Fresh Main (TTA No. 01)	18	180	01/09/06	29/03/06	01/09/06	29/03/06	01/09/06	29/03/06
AZRDUT0900	Watermain - Replaces Fresh Main (TTA No. 08)	18	50	01/22/06	11/09/06	01/22/06	11/09/06	01/22/06	11/09/06
AZRDUT1000	Install Public Lighting Post (TTA No. 04)	8	260	01/18/06	26/07/06	01/18/06	26/07/06	01/18/06	26/07/06
AZRDUT1100	Install Public Lighting Post (TTA No. 08)	8	260	01/18/06	26/07/06	01/18/06	26/07/06	01/18/06	26/07/06
Public Lighting, Duct and Kerb									
AZRDPK0100	Lay Kerb	14	260	01/28/06	12/07/06	01/28/06	12/07/06	01/28/06	12/07/06
AZRDPK0200	Lay Kerb (TTA No. 04)	6	260	01/11/06	17/07/06	01/11/06	17/07/06	01/11/06	17/07/06
AZRDPK0300	Lay Kerb (TTA No. 08)	6	50	01/10/06	17/07/06	01/10/06	17/07/06	01/10/06	17/07/06
AZRDPK0400	Construct Central Divider	24	300	01/05/06	03/07/06	01/05/06	03/07/06	01/05/06	03/07/06
AZRDPK0500	Construct Central Divider (TTA No. 09)	12	10	01/04/06	18/07/06	01/04/06	18/07/06	01/04/06	18/07/06
AZRDPK0600	Construct CPB	24	300	01/05/06	03/07/06	01/05/06	03/07/06	01/05/06	03/07/06
AZRDPK0700	Lighting Drawpit & Cable Duct	18	260	01/05/06	24/06/06	01/05/06	24/06/06	01/05/06	24/06/06
AZRDPK0800	Lighting Drawpit & Cable Duct (TTA No. 04)	6	260	01/04/06	10/07/06	01/04/06	10/07/06	01/04/06	10/07/06
AZRDPK0900	Lighting Drawpit & Cable Duct (TTA No. 08)	6	50	01/03/06	10/07/06	01/03/06	10/07/06	01/03/06	10/07/06
Roads and Drains									
AZRDPR0100	Trim Formation & Lay Subbase	20	260	01/28/06	18/07/06	01/28/06	18/07/06	01/28/06	18/07/06
AZRDPR0200	Trim Formation & Lay Subbase (TTA No. 01)	10	180	01/30/06	11/04/06	01/30/06	11/04/06	01/30/06	11/04/06
AZRDPR0300	Trim Formation & Lay Subbase (TTA No. 02)	6	950	01/25/06	02/05/06	01/25/06	02/05/06	01/25/06	02/05/06
AZRDPR0400	Trim Formation & Lay Subbase (TTA No. 04)	8	260	01/13/06	18/07/06	01/13/06	18/07/06	01/13/06	18/07/06
AZRDPR2000	Trim Formation & Lay Subbase (TTA No. 08)	12	50	01/18/06	21/07/06	01/18/06	21/07/06	01/18/06	21/07/06
AZRDPR0700	Road Pavement - W/C	6	260	01/20/06	20/07/06	01/20/06	20/07/06	01/20/06	20/07/06
AZRDPR0800	Road Pavement - W/C (TTA No. 01)	10	180	01/12/06	22/04/06	01/12/06	22/04/06	01/12/06	22/04/06
AZRDPR0900	Road Pavement - B/C (TTA No. 02)	2	950	01/03/06	04/05/06	01/03/06	04/05/06	01/03/06	04/05/06
AZRDPR1000	Road Pavement - W/C (TTA No. 04)	12	200	01/20/06	02/08/06	01/20/06	02/08/06	01/20/06	02/08/06
AZRDPR1100	Road Pavement - W/C (TTA No. 08)	22	50	01/18/06	27/07/06	01/18/06	27/07/06	01/18/06	27/07/06
AZRDPR1200	Road Pavement - W/C (TTA No. 09)	6	16	01/18/06	23/07/06	01/18/06	23/07/06	01/18/06	23/07/06
AZRDPR1300	Construct Footpath between C/T & D/1	36	870	01/03/06	13/09/06	01/03/06	13/09/06	01/03/06	13/09/06
Road Markings, Traffic Signs and Fencing									
AZRDRA0100	Apply Road Marking (TTA No. 04)	4	200	01/28/06	02/08/06	01/28/06	02/08/06	01/28/06	02/08/06
AZRDRA0200	Apply Road Marking (TTA No. 08)	2	50	01/28/06	27/07/06	01/28/06	27/07/06	01/28/06	27/07/06
AZRDRA0400	Erect Signage	8	240	01/20/06	28/07/06	01/20/06	28/07/06	01/20/06	28/07/06
AZRDRA0600	Erect Signage (TTA No. 08)	6	180	01/09/06	08/07/06	01/09/06	08/07/06	01/09/06	08/07/06
AZRDRA0800	Install Railing, Fencing & etc	8	240	01/20/06	28/07/06	01/20/06	28/07/06	01/20/06	28/07/06
AZRDRA0700	Install Railing, Fencing & etc (TTA No. 08)	6	180	01/02/06	08/07/06	01/02/06	08/07/06	01/02/06	08/07/06
Road S/L3									
Earthworks									
AZRSEA0060	Remove Ext Surcharge Mound	22	100	01/24/06	17/07/06	01/24/06	17/07/06	01/24/06	17/07/06
AZRSEA0100	Excavate to 4.5 mPD	12	100	01/18/06	01/08/06	01/18/06	01/08/06	01/18/06	01/08/06
AZRSEA0200	Fill to Road Formation	24	100	01/02/06	31/07/06	01/02/06	31/07/06	01/02/06	31/07/06
Drainage Works									
AZRSDW0100	Decide Exact Location of Manholes & Catchpits	1	850	01/30/06	30/09/06	01/30/06	30/09/06	01/30/06	30/09/06
AZRSDW0200	S&T - Existing Box Culvert	29	100	01/02/06	08/07/06	01/02/06	08/07/06	01/02/06	08/07/06
AZRSDW0300	S&S3 - Existing Box Culvert	29	100	01/14/06	18/03/06	01/14/06	18/03/06	01/14/06	18/03/06
AZRSDW0400	F301 - F302	18	100	01/20/06	10/04/06	01/20/06	10/04/06	01/20/06	10/04/06
AZRSDW0500	S&S3 - S&S29	36	260	01/01/06	12/04/06	01/01/06	12/04/06	01/01/06	12/04/06



ID	Description	Orig Dur	Total Dur	Percent Complete	Start	Finish	Start	Finish
A2RSRW0000	\$666 - \$838	21	100	100	11APR08	05MAY08	22APR08	17MAY08
Utility Works								
A2RSUT0000	NWT & HGC - Laying Cable Duct	18	300	0	01MAR08	21MAR08	06APR08	26APR08
A2RSUT0210	NWT & HGC - Cable Connection	27	440	0	17APR08	18MAY08	09JUN08	11JUL08
A2RSUT0000	WT&T - Laying Cable Duct	18	300	0	22MAR08	12APR08	27APR08	18MAY08
A2RSUT0210	WT&T - Cable Connection	28	280	0	08MAY08	07JUN08	10JUN08	11JUL08
A2RSUT0400	PCOW - Laying Cable Duct	38	300	0	22MAR08	04MAY08	27APR08	08JUN08
A2RSUT0410	PCOW - Cable Connection	28	50	0	05JUN08	05JUL08	10JUN08	11JUL08
A2RSUT0500	Install Public Lighting Post	8	200	0	21JUL08	28JUL08	14AUG08	22AUG08
Public Lighting, Duct and Kerb								
A2RSRW0100	Construct Dwarf Wall	34	100	0	08MAY08	15JUN08	18MAY08	27JUN08
A2RSRW0200	Lay Kerb	9	100	0	11JUL08	20JUL08	22JUL08	01AUG08
A2RSRW0300	Lighting Drawpit & Cable Duct	20	100	0	18JUN08	10JUL08	28JUN08	21JUL08
Roads and Pavement								
A2RSRP0100	Trim Formation & Lay Subbase	18	210	0	18JUN08	07JUL08	12JUL08	01AUG08
A2RSRP0200	Road Pavement	18	100	0	21JUL08	10AUG08	02AUG08	22AUG08
A2RSRP0300	Construct Footpath between CT and RW No. 1	24	50	0	06JUL08	02AUG08	12JUL08	08AUG08
Road Marking, Traffic Signs and Fencing								
A2RSRW0100	Apply Road Marking	3	50	0	17AUG08	16AUG08	20AUG08	25AUG08
A2RSRW0200	Erect Signage	12	50	0	09AUG08	16AUG08	09AUG08	22AUG08
A2RSRW0300	Install Railing, Fencing & etc	12	50	0	09AUG08	16AUG08	09AUG08	22AUG08
Erasing Self Changing Street								
Drainage Works								
A2SCDW0100	Decide Exact Location of Manholes & Catchpits	1	1850	0	30SEP08	30SEP08	13MAY08	13MAY08
A2SCDW0200	\$864 - \$947 (TTA No. 04)	42	50	0	09MAY08	27JUN08	15MAY08	04JUL08
A2SCDW0300	Construct Gullies (TTA No. 08)	4	300	0	22AUG08	25AUG08	03OCT08	09OCT08
Utility Works								
A2SCUT0000	Watermain - Replace SWM (TTA No. 04)	24	50	0	14JUN08	12JUL08	20JUN08	18JUL08
A2SCUT0100	Watermain - Lay FWM Crossing (TTA No. 04)	18	50	0	21JUN08	12JUL08	27JUN08	18JUL08
A2SCUT0200	Watermain - Lay FWM Crossing (TTA No. 08)	24	360	0	28AUG08	23SEP08	09OCT08	08NOV08
A2SCUT0300	Install Public Lighting Post (TTA No. 04)	6	140	0	01AUG08	09AUG08	17AUG08	25AUG08
A2SCUT1100	Install Public Lighting Post (TTA No. 08)	8	300	0	09OCT08	17OCT08	21NOV08	28NOV08
Public Lighting, Duct and Kerb								
A2SCRW0100	Lay Kerb (TTA No. 04)	8	50	0	22JUL08	31JUL08	28JUL08	06AUG08
A2SCRW0200	Lay Kerb (TTA No. 08)	6	380	0	30SEP08	09OCT08	14NOV08	20NOV08
A2SCRW0300	Lighting Drawpit & Cable Duct (TTA No. 04)	8	50	0	13JUL08	21JUL08	18JUL08	27JUL08
A2SCRW0400	Lighting Drawpit & Cable Duct (TTA No. 08)	6	380	0	23SEP08	28SEP08	07NOV08	13NOV08
Roads and Pavement								
A2SCRP0100	Trim Formation & Lay Subbase (TTA No. 04)	12	50	0	22JUL08	04AUG08	28JUL08	10AUG08
A2SCRP0200	Road Pavement (TTA No. 04)	12	50	0	05AUG08	18AUG08	11AUG08	24AUG08
A2SCRP0300	Road Pavement (TTA No. 08)	8	380	0	09OCT08	17OCT08	21NOV08	28NOV08
A2SCRP0400	Remove Existing Traffic Island (TTA No. 02)	6	180	0	25APR08	02MAY08	18MAY08	24MAY08
A2SCRP0500	Road Pavement (TTA No. 02)	8	180	0	08MAY08	11MAY08	25MAY08	03JUN08
Road Marking, Traffic Signs and Fencing								
A2SCRM0050	Apply Road Marking (TTA No. 04)	1	50	0	19AUG08	19AUG08	25AUG08	25AUG08
A2SCRM0100	Apply Road Marking (TTA No. 08)	3	360	0	18OCT08	20OCT08	30NOV08	02DEC08
A2SCRM0200	Erect Signage	12	740	0	18AUG08	01SEP08	18NOV08	28NOV08
A2SCRM0300	Install Railing, Fencing & etc	12	740	0	18AUG08	01SEP08	18NOV08	28NOV08

Describe Exact Location of Manholes & Catchpits

Start date: 10JUN04
 Finish date: 20OCT07
 Run date: 28SEP08
 Page number: 31A

Legend:
 ■ Easy bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

Leader - Wai Kee (C&T) Joint Venture
TP3703 - Revised Works Programme - RP04

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Activity	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Existing 3rd Crossing Street Roundabout							
Laying Existing Cross Road Duct (TTA No. 05)	4	101d	0	08JUN06	12JUN06	06OCT06	10OCT06
Laying Existing Cross Road Duct (TTA No. 06)	4	101d	0	26JUN06	28JUN06	24OCT06	27OCT06
Demolish Existing Island (TTA No. 05)	8	101d	0	29MAY06	07JUN06	26SEP06	04OCT06
Construct Proposed Island (TTA No. 05)	8	101d	0	13JUN06	21JUN06	11OCT06	19OCT06
Demolish Existing Kerb (TTA No. 06)	2	101d	0	23JUN06	24JUN06	21OCT06	23OCT06
Lay Kerb (TTA No. 06)	8	101d	0	30JUN06	10JUL06	28OCT06	07NOV06
Demolish Existing Roundabout (TTA No. 07)	8	101d	0	14JUL06	11NOV06	28NOV06	28NOV06
Reconstruct Roundabout (TTA No. 07)	8	101d	0	24JUL06	01AUG06	21NOV06	28NOV06
Reinstat Road Pavement (TTA No. 06)	8	101d	0	11JUL06	08NOV06	08NOV06	08NOV06
Resurfacing Wearing Course	8	101d	0	02AUG06	12AUG06	30NOV06	08DEC06
Construct Proposed Island (TTA No. 06)	12	7d	0	04DEC06	16DEC06	12DEC06	25DEC06
Road Marking & Traffic Sign and Lighting							
Apply Road Marking	2	101d	0	25AUG06	29DEC06	29DEC06	25DEC06
Erect Signage	12	101d	0	11AUG06	24AUG06	09DEC06	22DEC06
Install Railing, Fencing & etc	12	101d	0	11AUG06	24AUG06	09DEC06	22DEC06
Existing Ma Ltr Str Bridge							
Utility Works							
Install Public Lighting Post	8	81d	0	03OCT06	12OCT06	16DEC06	20DEC06
Public Lighting Duct and Kerb							
Lay Kerb (TTA No. 03)	8	46d	0	13JUN06	21JUN06	07AUG06	15AUG06
Cable Duct Laying on Island (TTA No. 08)	6	75d	0	28AUG06	01SEP06	24NOV06	30NOV06
Cable Duct Laying on Reserve (TTA No. 08)	6	87d	0	05SEP06	11SEP06	19NOV06	18NOV06
Demolish Existing Pavement (TTA No. 03)	12	114d	0	29MAY06	12JUN06	12OCT06	25OCT06
Demolish Island & Paved Area (TTA No. 03)	12	48d	0	29MAY06	12JUN06	24JUL06	05AUG06
Road Pavement (TTA No. 03)	8	46d	0	22JUN06	30JUN06	18AUG06	24AUG06
Construct Roundabout on v-Abutment (TTA No. 03)	8	114d	0	13JUN06	21JUN06	26OCT06	04NOV06
Remove Pavement at Proposed Island (TTA No. 08)	4	75d	0	22AUG06	25AUG06	20NOV06	23NOV06
Construct Traffic Island (TTA No. 08)	8	75d	0	02SEP06	11SEP06	01DEC06	08DEC06
Construct Remaining Roundabout (TTA No. 08)	12	81d	0	22AUG06	04SEP06	27NOV06	09DEC06
Demolish Existing Central Reserve (TTA No. 08)	12	57d	0	22AUG06	04SEP06	28OCT06	11NOV06
Construct New Central Reserve (TTA No. 08)	18	57d	0	12SEP06	02OCT06	20NOV06	09DEC06
Road Marking, Traffic Sign and Lighting							
Apply Road Marking (TTA No. 03)	1	46d	0	03JUL06	03JUL06	25AUG06	25AUG06
Apply Road Marking (TTA No. 08)	1	57d	0	16OCT06	16OCT06	25DEC06	25DEC06
Erect Signage	12	57d	0	03OCT06	17OCT06	11DEC06	23DEC06
Install Railing, Fencing & etc	12	57d	0	03OCT06	17OCT06	11DEC06	23DEC06
Car Park and Access Road							
Utility Works							
Install Public Lighting Post	21	86d	0	06MAY06	30MAY06	19AUG06	12SEP06
Public Lighting Duct and Kerb	16	86d	0	01JUN06	18JUN06	13SEP06	30SEP06
Install Public Lighting Post	6	106d	0	14AUG06	22AUG06	16DEC06	20DEC06
Construct Dwarf Wall	23	86d	0	20JUN06	17JUL06	02OCT06	28OCT06
Lay Kerb	6	86d	0	04AUG06	12AUG06	17NOV06	28NOV06
Apply Road Marking (TTA No. 03)							
Apply Road Marking (TTA No. 08)							
Erect Signage							
Install Railing, Fencing & etc							
Install Public Lighting Post							
Lay Kerb							
Apply Road Marking (TTA No. 03)							
Apply Road Marking (TTA No. 08)							
Erect Signage							
Install Railing, Fencing & etc							
Install Public Lighting Post							
Lay Kerb							

Legend:
 Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point

WAL KOE
LEADER
Joint Venture
TP37/03 - Revised Works Programme - RP04

ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
AZCPK0020	Public Lighting Controller	10	118d	0	16JUL06	28JUL06	06DEC06	16NOV06	
AZCPK0400	Lighting Drawpit & Cable Duct	15	88d	0	18JUL06	03AUG06	31OCT06	16NOV06	
Roads and Pavement									
AZCPK0100	Trim Formation & Lay Subbase	8	96d	0	14AUG06	22AUG06	06DEC06	14DEC06	
AZCPK0200	Road Pavement	8	96d	0	23AUG06	31AUG06	19DEC06	23DEC06	
AZCPK0300	Construct Footpath	18	88d	0	14AUG06	07SEP06	27NOV06	16DEC06	
Roads Milling & Traffic Signalisation									
AZCPK0100	Apply Road Marking	2	86d	0	11SEP06	12SEP06	25DEC06	26DEC06	
AZCPK0200	Erect Signage	6	86d	0	04SEP06	06SEP06	16DEC06	23DEC06	
AZCPK0300	Install Railing, Fencing & etc	6	86d	0	04SEP06	06SEP06	16DEC06	23DEC06	
Agency Areas									
Drainage Works									
AZAMW0100	Construct U-Channels	16	119d	0	18JUL06	07AUG06	06DEC06	26DEC06	
Utility Works									
AZAMJ0100	Water Point WP1-3 to Water Meter No.1	16	61d	0	06SEP06	29SEP06	22NOV06	12DEC06	
AZAMJ0200	Water Point WP2-3 to Water Meter No.2	17	136d	0	28JUN06	18JUL06	07DEC06	26DEC06	
AZAMJ0300	Water Point WP3-3 to Water Meter No.3	26	107d	0	22JUL06	21AUG06	27NOV06	26DEC06	
AZAMJ0400	Water Point WP4-3 to Water Meter No.6	12	61d	0	03SEP06	14OCT06	13DEC06	26DEC06	
Section 3									
La Lir Subway									
Equipments									
A3MSEA0100	Remove Surchargo Mound	18	5d	0	03SEP05	22OCT05	07OCT05	28OCT05	
Pump House Construction									
A3MSPH0100	Construct Base Slab	6	5d	0	07NOV05	19NOV05	12NOV05	21NOV05	
A3MSPH0200	Construct Wall upto Barrel Base Slab	6	5d	0	16NOV05	24NOV05	22NOV05	30NOV05	
A3MSPH0300	Construct Wall up to Top Slab	12	5d	0	09DEC05	22DEC05	15DEC05	30DEC05	
A3MSPH0400	Construct Top Slab	12	6d	0	06JAN06	21JAN06	18JAN06	03FEB06	
A3MSPH0500	Install Hoisting Beam	6	5d	0	02JAN06	07JAN06	07JAN06	13JAN06	
Subway Barrel Construction									
A3MSSB0100	Excavation	24	5d	0	24OCT05	19NOV05	29OCT05	29NOV05	
A3MSSB0200	Construct Subway #1 Base Slab	9	30d	0	21NOV05	30NOV05	29DEC05	06JAN06	
A3MSSB0300	Construct Subway #2 Base Slab	9	17d	0	17NOV05	26NOV05	07DEC05	16DEC05	
A3MSSB0400	Construct Subway #3 Base Slab	9	10d	0	07NOV05	16NOV05	18NOV05	26NOV05	
A3MSSB0500	Construct Subway #4 Base Slab	12	5d	0	25NOV05	06DEC05	01DEC05	14DEC05	
A3MSSB0600	Construct Subway #1 Wall + Top Slab	16	10d	0	24DEC05	13JAN06	07JAN06	25JAN06	
A3MSSB0700	Construct Subway #2 Wall + Top Slab	16	10d	0	06DEC05	23DEC05	17DEC05	06JAN06	
A3MSSB0800	Construct Subway #3 Wall + Top Slab	16	10d	0	17NOV05	05DEC05	28NOV05	16DEC05	
A3MSSB0900	Construct Subway #4 Wall + Top Slab	16	5d	0	06JAN06	20JAN06	14JAN06	03FEB06	
A3MSSB1000	Backfilling	16	5d	0	20JAN06	11FEB06	26JAN06	17FEB06	
Subway East Ramp Construction									
A3MSE0100	Excavation (East Ramp)	24	5d	0	31OCT05	28NOV05	06NOV05	07DEC05	
A3MSE0200	Construct E1 Ramp Base Slab	6	11d	0	12DEC05	17DEC05	24DEC05	02JAN06	
A3MSE0300	Construct E2 Ramp Base Slab	6	11d	0	06DEC05	10DEC05	17DEC05	23DEC05	
A3MSE0400	Construct E3 Ramp Base Slab	6	9d	0	20NOV05	03DEC05	06DEC05	14DEC05	
A3MSE0500	Construct E4 Ramp Base Slab	6	9d	0	18NOV05	26NOV05	29NOV05	07DEC05	
A3MSE0600	Construct E5 Ramp Base Slab	6	11d	0	07DEC05	10DEC05	16DEC05	23DEC05	
A3MSE0700	Construct E6 Ramp Base Slab	6	9d	0	23NOV05	01DEC05	03DEC05	12DEC05	
A3MSE1000	Construct E7 Ramp Base Slab	12	5d	0	06NOV05	22NOV05	19NOV05	26NOV05	

Legend:
 Empty bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point



Leader - Wai Kee (C&T) Joint Venture
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ACI ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
A3MSSE1100	Construct E8 Ramp Base Slab	8	180	0	23NOV05	01DEC05	08DEC05	18DEC05	
A3MSSE1100	Construct E9 Ramp Base Slab	8	150	0	02DEC05	10DEC05	20DEC05	30DEC05	
A3MSSE1400	Construct E1 Ramp Walls	8	84	0	21DEC05	26DEC05	03JAN06	08JAN06	
A3MSSE1500	Construct E2 Ramp Walls	8	84	0	14DEC05	20DEC05	24DEC05	02JAN06	
A3MSSE1600	Construct E3 Ramp Walls	8	84	0	07DEC05	13DEC05	17DEC05	23DEC05	
A3MSSE1700	Construct E4 Ramp Walls	8	84	0	28NOV05	06DEC05	08DEC05	18DEC05	
A3MSSE2000	Construct E5 Ramp Walls	10	50	0	18DEC05	31DEC05	24DEC05	08JAN06	
A3MSSE2100	Construct E6 Ramp Walls	10	50	0	07DEC05	17DEC05	13DEC05	23DEC05	
A3MSSE2200	Construct E7 Ramp Walls	12	54	0	23NOV05	09DEC05	28NOV05	12DEC05	
A3MSSE2300	Construct E8 Ramp Walls	10	90	0	07DEC05	17DEC05	17DEC05	30DEC05	
A3MSSE2500	Construct E9 Ramp Walls	8	84	0	18DEC05	24DEC05	31DEC05	08JAN06	
A3MSSE2600	Backfilling	20	50	0	18DEC05	10JAN06	22DEC05	18JAN06	
A3MSSE2700	Install Roof Steel Posts	18	820	0	11JAN06	02FEB06	27MAR06	17APR06	
A3MSSE2900	Construct Roof Slab E8	12	820	0	03FEB06	16FEB06	18APR06	02MAY06	
A3MSSE2900	Construct Roof Slab E5	12	820	0	17FEB06	02MAR06	03MAY06	18MAY06	
A3MSSE3000	Construct Roof Slab E4, E7	12	820	0	03MAR06	16MAR06	17MAY06	30MAY06	
A3MSSE3100	Construct Roof Slab E1, E6	12	820	0	17MAR06	30MAR06	01JUN06	14JUN06	
A3MSSE3200	Construct Roof Slab E2	12	820	0	31MAR06	14APR06	15JUN06	28JUN06	
A3MSSE3300	Construct Roof Slab E1, E9	12	820	0	15APR06	28APR06	28JUN06	13JUL06	
Slurry Wall Ramp Construction									
A3MSW0100	Excavation (Western Ramp)	41	200	0	28NOV05	16JAN06	21DEC05	10FEB06	
A3MSW0200	Construct W1 Ramp Base Slab	8	430	0	17JAN06	18MAR06	18MAR06	18MAR06	
A3MSW0300	Construct W2 Ramp Base Slab	8	420	0	08JAN06	14JAN06	27FEB06	07MAR06	
A3MSW0400	Construct W3 Ramp Base Slab	10	200	0	23DEC05	05JAN06	18JAN06	28JAN06	
A3MSW0500	Construct W4 Ramp Base Slab	12	200	0	09DEC05	22DEC05	04JAN06	17JAN06	
A3MSW0700	Construct W5 Ramp Base Slab	10	200	0	23DEC05	05JAN06	18JAN06	28JAN06	
A3MSW0800	Construct W6 Ramp Base Slab	8	520	0	08JAN06	14JAN06	16MAR06	18MAR06	
A3MSW0900	Construct W1 Ramp Walls	10	200	0	24FEB06	07MAR06	20MAR06	30MAR06	
A3MSW1000	Construct W2 Ramp Walls	10	200	0	13FEB06	23FEB06	08MAR06	18MAR06	
A3MSW1200	Construct W3 Ramp Walls	10	200	0	01FEB06	11FEB06	24FEB06	07MAR06	
A3MSW1300	Construct W4 Ramp Walls	20	200	0	06JAN06	28JAN06	01FEB06	23FEB06	
A3MSW1400	Construct W5 Ramp Walls	20	200	0	01FEB06	23FEB06	24FEB06	18MAR06	
A3MSW1500	Construct W6 Ramp Walls	10	200	0	24FEB06	07MAR06	20MAR06	30MAR06	
A3MSW1600	Backfilling	20	200	0	08MAR06	30MAR06	31MAR06	24APR06	
A3MSW1700	Install Roof Posts	18	200	0	31MAR06	21APR06	25APR06	18MAY06	
A3MSW1800	Construct Roof Slab W3	12	200	0	22APR06	08MAY06	17MAY06	30MAY06	
A3MSW1900	Construct Roof Slab W4	12	200	0	08MAY06	20MAY06	01JUN06	14JUN06	
A3MSW2000	Construct Roof Slab W2, W5	12	200	0	22MAY06	05JUN06	15JUN06	28JUN06	
A3MSW2100	Construct Roof Slab W1, W6	12	200	0	06JUN06	18JUN06	28JUN06	13JUL06	
Pumping and Drainage System									
A3MSP0100	Pumping System Installation	30	1680	0	08MAR05	12APR06	25SEP06	31OCT06	
A3MSFD0200	Drainage System Installation	20	200	0	20JUN06	13JUL06	14JUL06	05AUG06	
Miscellaneous Works									
A3MSMW0100	Miscellaneous Metal Works	24	440	0	08OCT06	04NOV06	20NOV06	28DEC06	
Finishing Works									
A3MSFW0100	Finishing Works at Barrel	24	200	0	14JUL06	10AUG06	07AUG06	02SEP06	

Legend

- █ Early bar
- █ Progress bar
- █ Critical bar
- █ Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

LEADER

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

ID	Description	Unit	Est. %	Start	Finish	Start	Finish	Start	Finish
A3NSPW0200	Finishing Works at East Ramp	24	200	01AUG06	07SEP06	04SEP06	30SEP06		
A3NSPW0300	Finishing Works at West Ramp	24	200	01AUG06	05OCT06	02OCT06	31OCT06		
A3NSPW0400	Electrical Installation at Borel & Pump House	24	680	01AUG06	07SEP06	01NOV06	28NOV06		
A3NSPW0500	Electrical Installation at East Ramp	24	440	08SEP06	05OCT06	01NOV06	28NOV06		
A3NSPW0600	Electrical Installation at West Ramp	24	200	09OCT06	04NOV06	01NOV06	28NOV06		
A3NSPW0700	Pumping System & Electrical Installation	24	200	09NOV06	02DEC06	28NOV06	28DEC06		
A3NSPW0800	Leaving and Unleaving Area								
A3NSPW0900	Decide Location of Manholes & Catchpits	1	1720	30SEP06	30SEP06	27APR08	27APR08		
A3NSPW1000	F302 - F308	28	230	05JUN06	03JUL06	01AUG06	01AUG06		
A3NSPW1100	Test Pit for F308 - F306A (Deleted)	10		28JAN06 A	28JAN06 A	28JAN06 A	28JAN06 A		
A3NSPW1200	F309 - F306A	11	3180	03SEP06	14OCT06	16OCT06	01NOV06		
A3NSPW1300	F309 - F306A (TTA No. 08)	11	610	02AUG06	02SEP06	27NOV06	08DEC06		
A3NSPW1400	F309A - Existing Sewer Manhole	21	3180	016OCT06	08NOV06	02NOV06	25NOV06		
A3NSPW1500	S712 - S822	21	230	01MAR06	23APR06	28APR06	23MAY06		
A3NSPW1600	S817 - S818	11	230	02APR06	09MAY06	24MAY06	06JUN06		
A3NSPW1700	S876 - S824	21	230	01MAY06	03JUN06	07JUN06	30JUN06		
A3NSPW1800	S878 - S823 (TTA no. 04)	28	480	09JUL06	04AUG06	28AUG06	27SEP06		
A3NSPW1900	S713 - S834	21	230	06JUL06	29JUL06	02AUG06	25AUG06		
A3NSPW2000	CLP - Laying LV Cable	5	230	02SEP06	07SEP06	28SEP06	04OCT06		
A3NSPW2100	CLP - Construct Pillar Box	5	1470	03MAR06	08APR06	26SEP06	26SEP06		
A3NSPW2200	Install Public Lighting Post	6	870	03SEP06	13SEP06	18DEC06	20DEC06		
A3NSPW2300	Construct Dwarf Wall	50	230	05JUL06	01SEP06	02AUG06	28SEP06		
A3NSPW2400	Construct Dwarf Wall (TTA No. 04)	6	480	05AUG06	11AUG06	28SEP06	04OCT06		
A3NSPW2500	Lay Kerb (TTA No. 04)	12	230	02SEP06	13OCT06	27OCT06	10NOV06		
A3NSPW2600	Lay Kerb (TTA No. 08)	6	860	02AUG06	28AUG06	02DEC06	08DEC06		
A3NSPW2700	Lighting Drawpit & Cable Duct (TTA No. 04)	18	230	08SEP06	28SEP06	05OCT06	28OCT06		
A3NSPW2800	Lighting Drawpit & Cable Duct (TTA No. 08)	6	870	02AUG06	04SEP06	11DEC06	18DEC06		
A3NSPW2900	Trim Formation & Lay Subbase (TTA No. 08)	8	430	14OCT06	23OCT06	06DEC06	13DEC06		
A3NSPW3000	Road Pavement (TTA No. 08)	8	430	24OCT06	02NOV06	14DEC06	22DEC06		
A3NSPW3100	Construct Footpath (TTA No. 04)	24	230	14OCT06	11NOV06	11NOV06	08DEC06		
A3NSPW3200	Construct Footpath (TTA No. 08)	6	230	13NOV06	18NOV06	09DEC06	15DEC06		
A3NSPW3300	Apply Road Marking	2	230	02NOV06	28NOV06	20DEC06	25DEC06		
A3NSPW3400	Erect Signage	6	230	02NOV06	28NOV06	18DEC06	22DEC06		
A3NSPW3500	Install Railing, Fencing & etc	6	230	02NOV06	28NOV06	18DEC06	22DEC06		
A3NSPW3600	Construct U-Channels	36	810	02SEP06	14OCT06	18NOV06	28DEC06		
A3NSPW3700	Water Point WP#4-2 to Water Meter No.3	10	510	06SEP06	27SEP06	10NOV06	28NOV06		
A3NSPW3800	Water Point WPS-2 to Water Meter No.5	10	510	02SEP06	10OCT06	28NOV06	09DEC06		
A3NSPW3900	Water Point WPS-2 to Water Meter No.6	14	510	01OCT06	20OCT06	11DEC06	28DEC06		

Legend:

- Early bar
- Proposed bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Start date: 10/04/06

Finish date: 20/07/07

Date time: 28SEP06

Run date: 17OCT06

Page number: 16A

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

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1PTSS0003	Fabrication & Painting of Steetworks	48	336	017APR06	13JUN06	26MAY06	22JUL06		
A1PTSS0004	Delivery of Prefabricated Steetworks	12	336	014JUN06	27JUN06	24JUL06	05AUG06		
A1PTSS0005	Erection of Steetworks	36	336	028JUN06	09AUG06	07AUG06	16SEP06		
A1PTSS0006	Touch Up Painting	12	336	010AUG06	29AUG06	16SEP06	30SEP06		
AS/Structural/Electrical Works and Finishes									
A1PTAB0100	Solid Concrete Block Work Wall	36	366	013APR06	29MAY06	26MAY06	08JUL06		
A1PTAB0200	Internal Wall Tile	24	366	026MAY06	23JUN06	10JUL06	05AUG06		
A1PTAB0300	External Wall Tile	24	336	021SEP06	19OCT06	01NOV06	28NOV06		
A1PTAB0400	Toilet Accessories Installation	24	366	024JUN06	22JUL06	07AUG06	02SEP06		
A1PTAB0500	Floor Tile	24	366	024JUL06	19AUG06	04SEP06	30SEP06		
A1PTAB0600	Roof Cladding	24	336	024AUG06	20SEP06	02OCT06	31OCT06		
A1PTAB0700	Metal Works & Ironmongery Installation	24	336	020OCT06	17NOV06	29NOV06	26DEC06		
Plumbing Works									
A1PTPL0100	Plumbing Works	24	366	021AUG06	16SEP06	02OCT06	31OCT06		
E&M Works									
A1PTEM0100	Electrical & Mechanical Installations	48	366	018SEP06	14NOV06	01NOV06	26DEC06		

Order No	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
Outstanding Works									
ASRLDW0100	Decide Exact Location of Manholes & Catchpits	1	100	28JUL04 A	28JUL04 A	28JUL04 A	28JUL04 A		
ASRLDW0150	Hand Over 2x2500 Pipa Upstream for Connection	6	100	20APR05 A	18JUL05 A	10SEP04 A	18JUL05 A		
ASRLDW1100	S413 - S407 (2x2500)	84	100	10SEP04 A	12JAN05 A	10SEP04 A	12JAN05 A		
ASRLDW1200	F424 to F427 (in Zone ZC)	31	100	22NOV04 A	25MAY05 A	22NOV04 A	25MAY05 A		
ASRLDW1300	Outlet - S413 (2x2500)	33	100	03JAN05 A	18JUL05 A	03JAN05 A	18JUL05 A		
ASRLDW2100	S407 - S407A (2x2500)	30	100	16DEC04 A	15DEC04 A	16DEC04 A	15DEC04 A		
ASRLDW2200	Connection Point to F431 to F428 (in Zone ZC)	30	100	16JAN05 A	28APR05 A	16JAN05 A	28APR05 A		
ASRLDW2300	SL4-019a - S413 & gullies	12	100	01MAR05 A	17MAR05 A	01MAR05 A	17MAR05 A		
ASRLDW2100	SL4-0028a - S412a	12	100	21FEB05 A	14APR05 A	21FEB05 A	14APR05 A		
ASRLDW2500	CP#10 - S412a	12	100	01MAR05 A	09APR05 A	01MAR05 A	09APR05 A		
ASRLDW2600	SL4-023a - S412a	12	100	09MAY05 A	03MAY05 A	09MAY05 A	03MAY05 A		
ASRLDW3100	S408 - S407 (1800)	12	100	06MAR05 A	15JUL05 A	06MAR05 A	15JUL05 A		
ASRLDW3200	Penal Interceptor - SL017a & S412	18	100	06MAR05 A	15JUL05 A	06MAR05 A	15JUL05 A		
ASRLDW3300	Connection Point - SL4-020a - S410	18	100	31JAN05 A	19MAR05 A	31JAN05 A	19MAR05 A		
ASRLDW3400	S407A - Upstream	20	100	05MAY05 A	10JUL05 A	05MAY05 A	10JUL05 A		
ASRLDW3500	SL4-025a - SL4-023a & gullies	18	100	07MAR05 A	17MAY05 A	07MAR05 A	17MAY05 A		
ASRLDW4100	Connection Point to F435	16	100	16DEC04 A	06APR05 A	16DEC04 A	06APR05 A		
ASRLDW4200	SL4-022a - SL4-020a & gullies	16	100	06MAR05 A	28APR05 A	06MAR05 A	28APR05 A		
ASRLDW4300	F427 - F428	15	100	10SEP04 A	08SEP04 A	10SEP04 A	08SEP04 A		
ASRLDW4400	F414a - F414	0	-340	3011APR05 A	28SEP05	11APR05 A	18AUG05		
ASRLDW4500	Connection Point - S404 - S408	16	-990	09MAR05 A	30SEP05	09MAR05 A	03JUN05		
ASRLDW4600	CP#4 & CP#3 - SL4-009a	10	100	02JUL05 A	24AUG05 A	02JUL05 A	24AUG05 A		
ASRLDW5100	F424 - F422	12	100	06JUL05 A	28JUL05 A	06JUL05 A	28JUL05 A		
ASRLDW5110	F422 - F421	6	100	06APR05 A	28JUL05 A	06APR05 A	28JUL05 A		
ASRLDW5200	SL4-001b - S407 & gullies	36	-990	27JUL05 A	17OCT05	27JUL05 A	16JUN05		
ASRLDW5300	CP#7 & CP#6 - S406	10	-990	14JUN05 A	10OCT05	14JUN05 A	13JUN05		
ASRLDW5400	S406 - SL4-008a	10	-990	23AUG05 A	08OCT05	23AUG05 A	13JUN05		

Decide Exact Location of Manholes & Catchpits

Hand Over 2x2500 Pipa Upstream for Connection

S413 - S407 (2x2500)

F424 to F427 (in Zone ZC)

Outlet - S413 (2x2500)

S407 - S407A (2x2500)

Connection Point to F431 to F428 (in Zone ZC)

SL4-019a - S413 & gullies

SL4-0028a - S412a

CP#10 - S412a

SL4-023a - S412a

S408 - S407 (1800)

Penal Interceptor - SL017a & S412

Connection Point - SL4-020a - S410

S407A - Upstream

SL4-025a - SL4-023a & gullies

Connection Point to F435

SL4-022a - SL4-020a & gullies

F427 - F428

F414a - F414

Connection Point - S404 - S408

CP#4 & CP#3 - SL4-009a

F424 - F422

F422 - F421

SL4-001b - S407 & gullies

CP#7 & CP#6 - S406

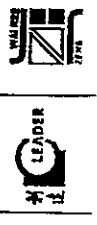
S406 - SL4-008a

Section 5

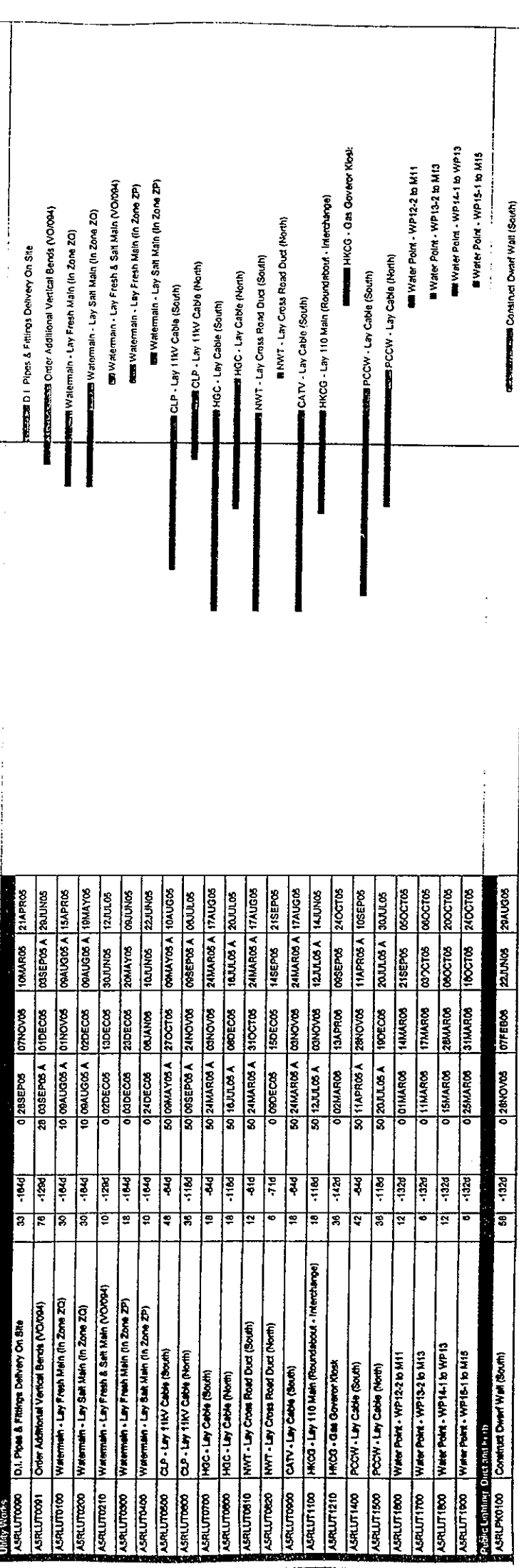
Form 14

Start date: 10JUN04 End date: 20OCT07 Mile: 285SEP05 Run date: 17OCT05 Page number: 17A	Legend: ■ Early bar ■ Progress bar ■ Critical bar ■ Summary bar ◆ Start milestone point ◆ Finish milestone point
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Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Revised Works Programme - RP04



ID	Description	Start Date	Start Time	End Time	Start Date	Start Time	End Time	Start Date	Start Time	End Time	
ASRLDW6000	F428 - Downstream	15	100	18JUL05 A	27AUG05 A	18JUL05 A	27AUG05 A	18JUL05 A	27AUG05 A	18JUL05 A	27AUG05 A
ASRLDW6100	Connection Point - S410 - S407 (1800)	18	100	08APR05 A	28MAY05 A	28MAY05 A	08APR05 A	28MAY05 A	28MAY05 A	08APR05 A	28MAY05 A
ASRLDW6200	SL4-010a - S408 & gullies	18	-1186	0	20SEP05	20OCT05	20OCT05	0	20SEP05	20OCT05	20OCT05
ASRLDW6300	SL4-011a - S410 & gullies	16	-826	40	31AUG05 A	10OCT05	31AUG05 A	10OCT05	31AUG05 A	10OCT05	31AUG05 A
ASRLDW6400	CP#11 - SL4-011b	10	-216	0	12OCT05	20OCT05	14SEP05 A	21SEP05 A	14SEP05 A	21SEP05 A	21SEP05 A
ASRLDW6500	CP#1 - SL4-015a	10	100	14SEP05 A	21SEP05 A	14SEP05 A	21SEP05 A	14SEP05 A	21SEP05 A	14SEP05 A	21SEP05 A
ASRLDW6600	SL4-007c - S409 & gullies	18	-692	0	12OCT05	01NOV05	14JUN05	21JUL05 A	14JUN05	21JUL05 A	14JUN05
ASRLDW6700	SL4-017a - SL4-026a & gullies	18	100	14SEP05 A	21SEP05 A	14SEP05 A	21SEP05 A	14SEP05 A	21SEP05 A	14SEP05 A	21SEP05 A
ASRLDW6800	SL4-026a - SL4-028a	10	-1104	0	28SEP05	10OCT05	10OCT05	0	28SEP05	10OCT05	10OCT05
ASRLDW7100	UC - CP#1 & CP#2	22	-276	0	28SEP05	25OCT05	26AUG05	21SEP05	26AUG05	21SEP05	26AUG05
ASRLDW7200	UC - CP#3	10	-356	0	28SEP05	10OCT05	17AUG05	27AUG05	10OCT05	17AUG05	27AUG05
ASRLDW7300	UC - CP#4	10	-356	0	28SEP05	10OCT05	17AUG05	27AUG05	10OCT05	17AUG05	27AUG05
ASRLDW7400	UC - CP#5, CP#6, CP#7 & CP#8	25	-144	0	12OCT05	08NOV05	23SEP05	24OCT05	08NOV05	23SEP05	24OCT05
ASRLDW7500	UC - CP#9	10	10	0	12OCT05	22OCT05	19OCT05	24OCT05	19OCT05	24OCT05	24OCT05
ASRLDW7600	UC - CP#11	10	-216	0	24OCT05	03NOV05	27SEP05	08OCT05	03NOV05	27SEP05	08OCT05
ASRLDW7700	Additional Sub-soil Drain (South) (VO047A)	12	-1326	0	02NOV05	15NOV05	28MAY05	06JUN05	02NOV05	15NOV05	28MAY05
ASRLDW7800	Additional UC at Footpath (South) (VO047A)	18	-1316	0	08FEB06	28FEB06	31AUG05	21SEP05	08FEB06	28FEB06	31AUG05
ASRLDW7900	Additional UC at Cycle Track (North) (VO051)	18	-826	0	20DEC05	11JAN06	31AUG05	21SEP05	20DEC05	11JAN06	31AUG05
ASRLDW8000	Demolish Existing 625, 825 & 1050 Drains	30	-86	10	10SEP05 A	31OCT05	10SEP05 A	24OCT05	10SEP05 A	31OCT05	10SEP05 A



Legend:
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

ASRLDW8000 Construct Over Wall (South) 58 -1326 0 28NOV05 07FEB06 22JUN05 29AUG05

Continued Over Wall (South)

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

W&A
 LEADER
 W&A

AS1 ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
ASRLPK0200	Construct Dwart Wall (North)	12	-120d	0	18JAN06	02FEB06	18AUG05	20AUG05	
ASRLPK0300	Lay Kerb (South)	10	-132d	0	18NOV05	28NOV05	09JUN05	21JUN05	
ASRLPK0400	Lay Kerb (North)	22	-184d	0	07JAN06	01FEB06	23JUN05	18JUL05	
ASRLPK0500	Lay Kerb (Parking Area)	20	-35d	0	12OCT05	01NOV05	29AUG05	21SEP05	
ASRLPK0600	Drawpit & Duct (South)	22	-71d	0	16NOV05	10DEC05	22AUG05	15SEP05	
ASRLPK0700	Drawpit & Duct (North)	22	-128d	0	21JAN06	17FEB06	22AUG05	15SEP05	
ASRLPK0800	Drawpit & Duct (CT)	26	-32d	0	18OCT05	18NOV05	07SEP05	09OCT05	
Roadside Pavement									
ASRLRP0100	Road Pavement, Cycle Track & Footpath	86	-184d	0	04FEB06	22APR06	20JUL05	09OCT05	
ASRLRP0200	Construct Temporary Cycle Track (Phase 1)	6		100	16APR05 A	20APR05 A	16APR05 A	20APR05 A	
ASRLRP0300	Complete Outstanding Drainage & Road Pavement	6	-58d	0	21DEC05	02JAN06	18OCT05	24OCT05	
ASRLRP0400	Removal of Temporary Cycle Track	3	-58d	0	21DEC05	23DEC05	14OCT05	17OCT05	
ASRLRP0500	Possess Additional Works Area	0		100	21APR05 A		21APR05 A		
ASRLRP0600	Construct Temporary Cycle Track (Phase 2)	10		100	22APR05 A	11MAY06 A	22APR05 A	11MAY06 A	
E&M Works									
ASRLM0100	Erect Light Post & E&M Works	30	-128d	0	16FEB06	24MAR06	16SEP05	24OCT05	
ASRLM0200	Erect Signage	12	-96d	0	04FEB06	17FEB06	10OCT05	24OCT05	
ASRLM0300	Apply Road Marking	14	-184d	0	24APR06	10MAY06	07OCT05	24OCT05	
ASRLM0400	Construct Fencing	30	-114d	0	04FEB06	10MAR06	16SEP05	24OCT05	
Section B									
Cycle Track									
Drainage Works									
ASCTDW0100	Deckle Exact Location of Manholes & Catchpits	1		100	27SEP04 A	27SEP04 A	27SEP04 A	27SEP04 A	
ASCTDW0200	S774 - Existing Box Culvert (in ZJ)	23	-120d	90	08JUL05 A	04OCT05	08JUL05 A	11MAY05	
ASCTDW0210	S773 - S774 (in ZJ)	15	-120d	80	13JUL05 A	04OCT05	13JUL05 A	11MAY05	
ASCTDW0300	S784 - S780 (in ZJ)	34		100	26SEP04 A	23DEC04 A	26SEP04 A	23DEC04 A	
ASCTDW0310	S780 - Culvert (in ZJ)	19	-116d	90	08JUL05 A	03OCT05	08JUL05 A	11MAY05	
ASCTDW0400	S780 - S789 (in ZG1)	25	-121d	90	20APR05 A	28SEP05	20APR05 A	08MAY05	
ASCTDW0410	S785 - S786 (in Remaining ZG1)	24		100	03AUG05 A	15AUG05 A	03AUG05 A	15AUG05 A	
ASCTDW0500	Sewerage System (in ZJ)	42		100	10NOV04 A	30DEC04 A	10NOV04 A	30DEC04 A	
ASCTDW0600	F410 - F414 (in ZG1)	24		100	21FEB05 A	06SEP05 A	21FEB05 A	06SEP05 A	
ASCTDW0610	F405 - F410 (in Remaining ZG1)	24		100	02APR05 A	27AUG05 A	02APR05 A	27AUG05 A	
ASCTDW0700	F408 - F402	18		100	16SEP05 A	27SEP05 A	16SEP05 A	27SEP05 A	
Utility Works									
ASCTUT0000	D.I. Pipes & Fittings Delivery On Site	33	-131d	86	28JUN05 A	04OCT05	28JUN05 A	27APR05	
ASCTUT0100	Watermain - Lay Fresh & Salt Main (in ZJ, South)	22	-131d	80	15AUG05 A	09OCT05	15AUG05 A	28APR05	
ASCTUT0110	Watermain - Lay Fresh & Salt Main (in ZJ, North)	22	-131d	0	04OCT05	29OCT05	27APR05	24MAY05	
ASCTUT0200	Watermain - Lay Fresh & Salt Main (in ZG1)	14	-131d	0	17DEC04 A	19NOV05	25MAY05	08JUN05	
ASCTUT0300	CLP - Lay 132kV Cable (in ZJ, South)	34		100	31OCT05 A	12JAN06 A	12JAN06 A	12JAN06 A	
ASCTUT0310	CLP - Lay 132kV Cable (in ZJ, North)	21	-120d	0	09OCT05	29OCT05	12MAY05	02JUN05	
ASCTUT0400	CLP - Lay 132kV Cable (in Remaining ZG1)	22	-121d	0	05SEP05	27OCT05	07MAY05	02JUN05	
ASCTUT0410	CLP - Lay 132kV Cable (in Remaining ZG1)	22		100	10SEP05 A	13SEP05 A	10SEP05 A	13SEP05 A	
ASCTUT0500	CLP - Lay 11kV Cable (in ZJ, South)	17		100	28FEB05 A	14MAR05 A	28FEB05 A	14MAR05 A	
ASCTUT0610	CLP - Lay 11kV Cable (in ZJ, North)	12	-120d	0	26OCT05	08NOV05	02JUN05	16JUN05	
ASCTUT0700	CLP - Lay 11kV Cable (in ZG1)	12	-121d	0	21OCT05	03NOV05	27MAY05	08JUN05	
ASCTUT0710	CLP - 11kV Cable (in Remaining ZG1)	12	-103d	0	03SEP05	19OCT05	27MAY05	08JUN05	

Legend

- █ Early bar
- █ Progress bar
- █ Critical bar
- █ Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

Start Date: 10JUN04
 Finish Date: 20OCT07
 G21a Use: 28SEP05
 Summary bar: 17OCT05
 G21a Use: 19A

WALKEE LEADER
 C Primavera Systems, Inc.

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

ACT ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
ASCTU0720	CLP - 11kV Cable Connection (in ZG1)	12	-121d	0	04NOV05	17NOV05	10JUN05	24JUN05
ASCTU0900	CLP - Lay LV Cable (in ZJ, South)	17	-120d	100	28FEB05 A	14MAR05 A	28FEB05 A	14MAR05 A
ASCTU0910	CLP - Lay LV Cable (in ZJ, North)	11	-120d	0	28OCT05	07NOV05	02JUN05	15JUN05
ASCTU1000	CLP - Lay LV Cable (in ZG1)	11	-120d	0	21OCT05	02NOV05	28MAY05	06JUN05
ASCTU1010	CLP - Lay LV Cable (in Remaining ZG1)	11	-102d	0	28SEP05	12OCT05	28MAY05	06JUN05
ASCTU1020	CLP - LV Cable Connection (in ZG1)	12	-120d	0	03NOV05	16NOV05	10JUN05	24JUN05
ASCTU1400	HKCG - Lay 250 Gas Main (in ZJ) (Deleted)	35		100	06JAN05 A	06JAN05 A	06JAN05 A	06JAN05 A
ASCTU1900	HKCG - Lay 250 Gas Main (in ZG1) (Deleted)	14		100	06JAN05 A	06JAN05 A	06JAN05 A	06JAN05 A
Public Lighting	Duct and Kerb							
ASCTPK0100	Lay Kerb (in ZJ, South)	16	-111d	0	04OCT05	21OCT05	23MAY05	06JUN05
ASCTPK0110	Lay Kerb (in ZJ, North)	10	-120d	0	08NOV05	18NOV05	16JUN05	27JUN05
ASCTPK0200	Lay Kerb (in ZG1)	12	-131d	0	16NOV05	29NOV05	10JUN05	24JUN05
ASCTPK0300	Lighting Ducts and Drawoffs	24	-131d	0	16NOV05	19DEC05	10JUN05	06JUL05
ASCTPK0400	Lighting Posts	12	-131d	0	14DEC05	29DEC05	11JUL05	23JUL05
Subs and Drains								
ASCTRP0100	Lay Cycle Track Pavement (in ZJ, South)	28	-106d	0	22OCT05	29NOV05	16JUN05	18JUL05
ASCTRP0110	Lay Cycle Track Pavement (in ZJ, North)	16	-120d	0	19NOV05	09DEC05	24JUN05	19JUL05
ASCTRP0200	Lay Cycle Track Pavement (in ZG1)	15	-123d	0	28NOV05	13DEC05	02JUL05	18JUL05
ASCTRM0100	Apply Road Marking	4	-123d	0	14DEC05	17DEC05	20JUL05	23JUL05
ASCTRM0200	Erect Signage	12	-116d	0	28NOV05	09DEC05	11JUL05	23JUL05
ASCTRM0300	Construct Fence	21	-119d	0	19NOV05	13DEC05	26JUN05	23JUL05
Asphalt								
ASCTH0100	Construct Planter Wall (in ZJ, South)	48	-111d	0	12OCT05	09DEC05	30MAY05	23JUL05
ASCTH0110	Construct Planter Wall (in ZJ, North)	18	-116d	0	19NOV05	09DEC05	04JUL05	23JUL05
ASCTH0200	Construct Planter Wall (in ZG1)	18	-123d	0	30NOV05	20DEC05	04JUL05	23JUL05

Section 7

Temporary Traffic Management Scheme

TTA Implementation	Apply & Issue XP for TTA Nos. 10 - 12	Implement TTA No. 10	Implement TTA No. 11	Implement TTA No. 12
ASCTM0050	1	08SEP04 A	21FEB05 A	08SEP04 A
ASCTM0100	1	100 06SEP04 A	21FEB05 A	08SEP04 A
ASCTM0200	1	100 24FEB05 A	24FEB05 A	24FEB05 A
ASCTM0300	1	100 11MAY05 A	11MAY05 A	11MAY05 A
ASCTM0400	1	100 21MAR05 A	21MAR05 A	21MAR05 A
ASCTM0500	1	100 21MAR05 A	21MAR05 A	21MAR05 A
ASCTM0600	1	98 07JUL05 A	28SEP05	07JUL05 A
ASCTM0700	1	0 07OCT05	07OCT05	15APR05
ASCTM0800	1	0 31OCT05	31OCT05	09MAY05
ASCTM0900	1	0 29NOV05	29NOV05	08JUN05
ASCTM1000	1	0 21DEC05	21DEC05	02JUL05
ASCTM1100	1	0 21DEC05	21DEC05	02JUL05
ASCTM1200	1	0 21DEC05	21DEC05	02JUL05
ASCTM1300	1	0 21DEC05	21DEC05	02JUL05
ASCTM1400	1	0 21DEC05	21DEC05	02JUL05
ASCTM1500	1	0 21DEC05	21DEC05	02JUL05
ASCTM1600	1	0 21DEC05	21DEC05	02JUL05
ASCTM1700	1	0 21DEC05	21DEC05	02JUL05
ASCTM1800	1	0 21DEC05	21DEC05	02JUL05
ASCTM1900	1	0 21DEC05	21DEC05	02JUL05
ASCTM2000	1	0 21DEC05	21DEC05	02JUL05
ASCTM2100	1	0 21DEC05	21DEC05	02JUL05
ASCTM2200	1	0 21DEC05	21DEC05	02JUL05
ASCTM2300	1	0 21DEC05	21DEC05	02JUL05
ASCTM2400	1	0 21DEC05	21DEC05	02JUL05
ASCTM2500	1	0 21DEC05	21DEC05	02JUL05
ASCTM2600	1	0 21DEC05	21DEC05	02JUL05
ASCTM2700	1	0 21DEC05	21DEC05	02JUL05
ASCTM2800	1	0 21DEC05	21DEC05	02JUL05
ASCTM2900	1	0 21DEC05	21DEC05	02JUL05
ASCTM3000	1	0 21DEC05	21DEC05	02JUL05
ASCTM3100	1	0 21DEC05	21DEC05	02JUL05
ASCTM3200	1	0 21DEC05	21DEC05	02JUL05
ASCTM3300	1	0 21DEC05	21DEC05	02JUL05
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ASCTM3800	1	0 21DEC05	21DEC05	02JUL05
ASCTM3900	1	0 21DEC05	21DEC05	02JUL05
ASCTM4000	1	0 21DEC05	21DEC05	02JUL05
ASCTM4100	1	0 21DEC05	21DEC05	02JUL05
ASCTM4200	1	0 21DEC05	21DEC05	02JUL05
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ASCTM4400	1	0 21DEC05	21DEC05	02JUL05
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ASCTM8600	1	0 21DEC05	21DEC05	02JUL05
ASCTM8700	1	0 21DEC05	21DEC05	02JUL05
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ASCTM8900	1	0 21DEC05	21DEC05	02JUL05
ASCTM9000	1	0 21DEC05	21DEC05	02JUL05
ASCTM9100	1	0 21DEC05	21DEC05	02JUL05
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ASCTM9800	1	0 21DEC05	21DEC05	02JUL05
ASCTM9900	1	0 21DEC05	21DEC05	02JUL05
ASCTM10000	1	0 21DEC05	21DEC05	02JUL05

Legend

- Start date
- Finish date
- Data date
- Run date
- Page number
- 20A
- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Project Information

Project Name: TP37703 - Revised Works Programme - RP04

Client: Leader - Wal Kee (G&T) Joint Venture

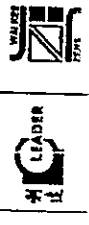
Contract No: TP37703 - Revised Works Programme - RP04

Scale: 1:1000

Date: 15/08/2024

Author: [Name]

Version: 1.0



ACT ID	DESCRIPTION	UNIT	TOTAL	PERCENT	START	FINISH	DATE	STATUS
ATLCHS0440	Taking Up of Existing Underlayer, Below #2.5	2	-1526	0	07NOV05	08NOV05	06JUN05	
ATLCHS0500	Taking Up of Existing Rubble, Below #2.5	18	-1586	0	18NOV05	02DEC05	27JUN05	
ATLCHS0530	Paving Leveling Stone	23	-1586	0	03DEC05	25DEC05	20JUL05	
ATLCHS0600	Block Wall Construction	31	-1586	0	28DEC05	28JAN06	20AUG05	
ATLCHS0700	Backfill Rubble Behind	10	-1586	0	26JAN06	08FEB06	30AUG05	
ATLCHS0800	Reinstate 3200 Dia. Concrete Pipe	14	-1586	0	09FEB06	27FEB06	13SEP05	
ATLCHS0900	Fabrication of Box Culvert Outlets	70	-1044	0	11DEC05	23FEB06	06NOV05	
ATLCHS1000	Install Box Culvert Outlets	12	-1044	0	23FEB06	06MAR06	18NOV05	
ATLCHS1100	Install Remaining Blocks for Both Side Outfall	4	-1044	0	07MAR06	10MAR06	22NOV05	
ATLCHS1200	Reinstate Armour & Underlayer	10	-1044	0	11MAR06	20MAR06	02DEC05	

Waterfront Promenade

Ground Works Construction

ACT ID	DESCRIPTION	UNIT	TOTAL	PERCENT	START	FINISH	DATE	STATUS
ATWPH0100	Concrete Irrigation Pump House	48	-130	0	22NOV05	15JAN06	07NOV05	03JAN06
Drainage Works								
ATWPH0100	Locate Exact Location of Manholes & Catchpits	1	-86	100	28JUL04	28JUL04	28JUL04	28JUL04
ATWPH0200	S709 - S714	50	-86	90	13OCT04	04OCT05	13OCT04	07JUN05
ATWPH0300	S701 - S706	48	-123	100	13OCT04	14DEC04	13OCT04	14DEC04
ATWPH0400	S714 - Existing Box Culvert	30	-123	0	03FEB06	06MAR06	06SEP05	12OCT05
ATWPH0500	F901 - F902 (TTA No. 10) Partially Aborted	18	-144	100	23FEB05	24JUN05	23FEB05	24JUN05
ATWPH0600	F902 - F903 (TTA No. 11) Aborted	34	-144	100	10MAY05	24JUN05	10MAY05	24JUN05
ATWPH0700	F903 - F904 (TTA No. 12)	18	-144	100	08APR05	08MAY05	08APR05	08MAY05
ATWPH0800	F901 - F902 (TTA No. 48) (VO0305E)	6	-144	0	08OCT05	15OCT05	18APR05	22APR05
ATWPH0900	F901 - F902 (TTA No. 49) (VO0305E)	12	-144	0	01NOV05	14NOV05	10MAY05	24MAY05
ATWPH1000	F901 - F902 (TTA No. 50) (VO0305E)	18	-144	0	30NOV05	20DEC05	06JUN05	30JUN05
ATWPH1100	F902 - F903 (TTA No. 51) (VO0305E)	24	-144	0	22DEC05	20JAN06	04JUL05	30JUL05
ATWPH1200	F904 - Existing Manhole	28	-130	100	04APR05	18JUN05	04APR05	18JUN05
ATWPH1300	S770 - S773 - S771 (VO073)	25	-130	0	28SEP05	28OCT05	12SEP05	13OCT05
ATWPH1400	S773 - Ext. Manhole (TTA No. 48) (VO073)	18	-144	0	08OCT05	28OCT05	18APR05	07MAY05
ATWPH1500	S773 - Ext. Manhole (TTA No. 49) (VO073)	18	-138	0	01NOV05	21NOV05	18MAY05	07JUN05
ATWPH1600	S773 - Ext. Manhole (TTA No. 50) (VO073)	24	-126	0	10NOV05	28DEC05	04JUL05	30JUL05
ATWPH1700	CP102 - CP104 (In ZU)	20	-130	0	13OCT05	28OCT05	14OCT05	05NOV05
ATWPH1800	Ext MH - MH-36 - F901 (VO058A)	20	-78	0	09DEC05	03JAN06	06SEP05	28SEP05
ATWPH1900	S716 - Existing Box Culvert	22	-132	0	23FEB06	20MAR06	14SEP05	12OCT05
ATWPH2000	225 Dia. Perforated Drain (In ZS 8. End - 200m)	28	-82	0	05NOV05	02DEC05	27JUL05	25AUG05
ATWPH2100	225 Dia. Perforated Drain (In ZS 200m - 400m)	28	-82	0	22NOV05	21DEC05	27JUL05	25AUG05
ATWPH2200	225 Dia. Perforated Drain (In ZS 400m - N. End)	12	-132	0	14APR06	27APR06	05NOV05	18NOV05
ATWPH2300	225HR & Catchpit with 2000.L along Parapet Wall	50	-83	0	04MAR06	03MAY06	11NOV05	10JAN06
ATWPH2400	225UC (In ZU)	24	-47	0	25NOV05	22DEC05	28SEP05	28OCT05
ATWPH2500	300UC (In ZU)	25	-47	0	23DEC05	23JAN06	29OCT05	28NOV05
ATWPH2600	225Dia. Perforated Drain (In ZU)	21	-46	0	22NOV05	19DEC05	27SEP05	21OCT05
ATWPH2700	300 CUC (In ZU)	18	-35	0	29OCT05	18NOV05	09DEC05	31DEC05
ATWPH2800	225 Dia. Perforated Drain (In ZU)	18	-78	0	04JAN06	30SEP05	30SEP05	22OCT05

Utility Works

ACT ID	DESCRIPTION	UNIT	TOTAL	PERCENT	START	FINISH	DATE	STATUS
ATWPU0050	D.I. Pipes & Fittings Delivery On Site	30	-60	45	27APR05	18OCT05	27APR05	30JUL05
ATWPU0060	Order Additional Valve & Bend (VO093)	76	-120	22	08SEP05	07DEC05	08SEP05	18JUL05
ATWPU0100	Watermain - Lay Salt Main (TTA No. 10) Aborted	10	-100	100	15APR05	24JUN05	15APR05	24JUN05



ID	Activity	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
ATWPL0200	Watermain - Lay Main (TTA No. 11) Aborted			10MAY05	24JUN05	10MAY05	24JUN05																		
ATWPL0300	Watermain - SAW Main (TTA No. 48) (VO068A)	12	-1446	017OCT05	28OCT05	017OCT05	28OCT05																		
ATWPL0350	Watermain - SAW Main (TTA No. 49) (VO068A)	12	-1446	018NOV05	28NOV05	018NOV05	28NOV05																		
ATWPL0400	Watermain - SAW Main (TTA No. 50) (VO068A)	24	-1326	030NOV05	28DEC05	030NOV05	28DEC05																		
ATWPL0500	CLP - Lay LV Cable	12	-500	0108AUG05	28SEP05	0108AUG05	28SEP05																		
ATWPL0600	PCCW - Lay Cable	55	-894	022NOV05	28JAN06	022NOV05	28JAN06																		
ATWPL0700	PCCW - Lay Cable (Landscape Node P3)	12	-780	014APR06	27APR06	014APR06	27APR06																		
ATWPL0800	Watermain (in ZU)	18	-934	031OCT05	18NOV05	031OCT05	18NOV05																		
ATWPL0900	Issue Allocation Warrant to WSD (VO068)	24	-780	028SEP05	27OCT05	028SEP05	27OCT05																		
ATWPL1000	Relocation of Fire Hydrant in ZU by WSD (VO068)	24	-780	028OCT05	24NOV05	028OCT05	24NOV05																		
ATWPL1100	HKCG - 315kV Diversion at SP Road (Additional)	15		10011JUL05	27JUL05	10011JUL05	27JUL05																		
ATWPL1200	CLP - 132kV Diversion at SP Road (Additional)	54		10008AUG05	18AUG05	10008AUG05	18AUG05																		
Public Lighting - Dust and Light																									
ATWPL0100	Public Lighting (in ZU)	60	-428	010DEC05	21FEB06	010DEC05	21FEB06																		
ATWPL0200	Public Lighting (in ZS)	60	-888	015FEB06	28APR06	015FEB06	28APR06																		
Landscape Works																									
ATWPL0300	Lay Paving Block (in ZU)	30	-424	022FEB06	28MAR06	022FEB06	28MAR06																		
ATWPL0400	Lay Paving Block (in ZS)	60	-800	028MAR06	08JUN06	028MAR06	08JUN06																		
ATWPL0500	Finishing Works (in ZU)	30	-176	010FEB06	13MAR06	010FEB06	13MAR06																		
ATWPL0600	Finishing Works (in ZS)	55	-898	027FEB06	05MAY06	027FEB06	05MAY06																		
E&M Works																									
ATWPL0700	Irrigation System (in ZU)	30	-780	010APR06	13MAY06	010APR06	13MAY06																		
ATWPL0800	Irrigation System (in ZS)	32	-822	022APR06	30MAY06	022APR06	30MAY06																		
ATWPL0900	E&M Works	30	-780	010APR06	13MAY06	010APR06	13MAY06																		
Testing and Commissioning																									
ATWPL1000	Testing & Commissioning	30	-822	016MAY06	12JUN06	016MAY06	12JUN06																		
Road Materials, Traffic Signs and Signage																									
ATWPL0300	Erect Signage	30	-888	014MAY06	08JUN06	014MAY06	08JUN06																		
ATWPL0400	Apply Road Marking	12	-800	030MAY06	13JUN06	030MAY06	13JUN06																		
Landscape Hardworks																									
ATWPL0100	Planter Wall (in ZS, South End - 100m)	20	-820	010OCT05	12NOV05	010OCT05	12NOV05																		
ATWPL0200	Planter Wall (in ZS, 100 - 200m)	20	-820	5518APR05	09OCT05	5518APR05	09OCT05																		
ATWPL0300	Planter Wall (in ZS, 200 - 300m)	20	-880	020OCT05	21NOV05	020OCT05	21NOV05																		
ATWPL0400	Planter Wall (in ZS, 300 - 400m)	20	-880	010OCT05	28OCT05	010OCT05	28OCT05																		
ATWPL0500	Planter Wall (in ZS, 400 - North End)	20	-1320	021MAR06	13APR06	021MAR06	13APR06																		
ATWPL0600	Planter Wall (in ZU)	56	-780	5021MAY05	09DEC05	5021MAY05	09DEC05																		
ATWPL0700	Fill Rock to Parapet Wall Formation (VO068)	30	-830	7018JUN05	09OCT05	7018JUN05	09OCT05																		
ATWPL0800	Parapet Wall along Seawall (600m)	120	-920	010OCT05	03MAR06	010OCT05	03MAR06																		
ATWPL0900	Parapet Wall along Landscape Node P3 (100m)	24	-880	021MAR06	18APR06	021MAR06	18APR06																		
ATWPL1000	Construct Curve Trellis (in ZU)	60	-170	028SEP05	09DEC05	028SEP05	09DEC05																		
ATWPL1100	Construct Parapets (in ZU)	47	-170	010DEC05	09FEB06	010DEC05	09FEB06																		
ATWPL1200	Construct Parapets (in ZS)	24	-860	027JAN06	25FEB06	027JAN06	25FEB06																		
ATWPL1300	Water Point WP28-1 to 28-8 (in ZU)	30	-780	013MAR06	07APR06	013MAR06	07APR06																		
ATWPL1400	Water Point WP27-1 to 27-4 (in ZS)	15	-860	022DEC05	10JAN06	022DEC05	10JAN06																		
ATWPL1500	Water Point WP26-1 to 26-2 (in ZS)	15	-730	011JAN06	27JAN06	011JAN06	27JAN06																		
ATWPL1600	Water Point WP25-1 to 25-4 (in ZS)	16	-1320	028APR06	18MAY06	028APR06	18MAY06																		

Legend
 Start date
 Finish date
 Run date
 Page number
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Easy bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point

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

Item No.	Description	Start	Finish	Duration	Early Start	Early Finish	Early Duration	LS	LF	LD	ES	EF	ED	SS	SL	SD	FS	FL	FD	FF	FFL	FFD
1	Drilling (Two Drills)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
2	Taking Up of Existing Armour to +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
3	Taking Up of Existing Underlayer to +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
4	Demolish Existing Outfall Units	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
5	DSD Approval of Removal of 5 Cells Culvert	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
6	Taking Up Existing 5 Cells Box Culvert Units	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
7	Taking Up of Existing Underlayer Below +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
8	Taking Up of Existing Rubble Below +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
9	Placing Leveling Stone	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
10	Block Wall Construction	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
11	Backfill Rubble Behind	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
12	Reinstate 5 Cells Box Culvert Units	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
13	Fabrication of 5 Cells Outfall Units	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
14	Install 5 Cells Outfall Units	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
15	Install Remaining Blocks for Both Side Outfall	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
16	Reinstate Armour & Underlayer	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
17	Drilling (Two Drills)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
18	Taking Up of Existing Armour to +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
19	Taking Up of Existing Underlayer to +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
20	Taking Up of Existing Rubble to +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
21	Demolish Existing Outfall Units	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
22	Taking Up Existing 2500 Dia. Concrete Pipe	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
23	Taking Up of Existing Armour Below +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
24	Taking Up of Existing Underlayer Below +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
25	Taking Up of Existing Rubble Below +2.5	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
26	Placing Leveling Stone	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
27	Block Wall Construction (Stage 1)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
28	Block Wall Construction (Stage 2)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
29	Backfill Rubble Behind (Stage 1)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
30	Backfill Rubble Behind (Stage 2)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
31	Reinstate 2500 Dia. Pipe Culvert	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
32	Fabrication of Box Culvert Outfall	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
33	Install Box Culvert Outfall	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
34	Install Remaining Blocks for Both Side Outfall	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
35	Reinstate Armour & Underlayer	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
36	Division of Ext. Cycle Track (Phase 2)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
37	Removal of Ext. Cycle Track Pavement (Phase 2)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															
38	Take Up / Divert Ext. Utility Services (Phase 2)	20DEC04	20DEC04	1	20DEC04	20DEC04	1															

Legend
 [Green Box] Early bar
 [Red Box] Progress bar
 [Blue Box] Critical bar
 [Yellow Box] Summary bar
 [Diamond] Start milestone point
 [Circle] Finish milestone point

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

Activity ID	Discipline	Qty Div	Total Div	Percent Complete	Start	Finish	Start	Finish	
ARLBS1000	Reinstate Ext. Utility Services	24	476	0	27OCT05	23NOV05	30AUG05	27SEP05	
ARLBS1000	Reinstate Ext. Cycle Track	12	386	0	07DEC05	20DEC05	26SEP05	13OCT05	
ARLBS1100	Reinstate Ext. Cycle Track	1	386	0	21DEC05	21DEC05	14OCT05	14OCT05	
Special Adjacent to Landing Ramp									
Existing Work									
AGALMA0100	Taking Up of Armour to +2.5 (South Section)	2		100	16NOV04	11NOV04	16NOV04	11NOV04	
AGALMA0110	Taking Up of Underlayer to +2.5 (South Section)	2		100	16NOV04	16NOV04	16NOV04	16NOV04	
AGALMA0200	Taking Up of Rubble to +2.5 (South Section)	8		100	01DEC04	17JAN05	01DEC04	17JAN05	
AGALMA0210	Taking Up of Armour Below +2.5 (South Section)	3		100	27NOV04	01DEC04	27NOV04	01DEC04	
AGALMA0220	Taking Up Underlayer Below +2.5 (South Section)	3		100	09DEC04	12DEC04	09DEC04	12DEC04	
AGALMA0230	Taking Up of Rubble Below +2.5 (South Section)	12		100	19DEC04	11JUL05	19DEC04	11JUL05	
AGALMA0240	Placing Leveling Stone (South Section)	10		100	12JUL05	30JUL05	12JUL05	30JUL05	
AGALMA0400	Block Wall Construction (South Section)	25		100	02AUG05	17AUG05	02AUG05	17AUG05	
AGALMA0500	Backfill the Rubble Behind (South Section)	6	466	80	18AUG05	28SEP05	18AUG05	13AUG05	
AGALMA0600	Backfill G200 Rockfill Behind (South Section)	5	400	0	26SEP05	03OCT05	14AUG05	18AUG05	
AGALMA0610	Diversion of Ext. Cycle Track (Phase 1)	1		100	28MAY05	28MAY05	28MAY05	28MAY05	
AGALMA0620	Removal of Ext. Cycle Track Pavement (Phase 1)	2		100	30MAY05	11JUN05	30MAY05	11JUN05	
AGALMA0630	Take Up / Divert Ext. Utility Services (Phase 1)	18		100	30MAY05	08JUN05	30MAY05	08JUN05	
AGALMA0700	Taking Up of Armour to +2.5 (North Section)	2		100	08NOV04	16NOV04	08NOV04	16NOV04	
AGALMA0710	Taking Up of Underlayer to +2.5 (North Section)	2		100	15NOV04	16NOV04	15NOV04	16NOV04	
AGALMA0800	Taking Up of Rubble to +2.5 (North Section)	8		100	17NOV04	17NOV04	17NOV04	17NOV04	
AGALMA0820	Taking Up of Armour Below +2.5 (North Section)	3		100	21NOV04	23NOV04	21NOV04	23NOV04	
AGALMA0830	Taking Up Underlayer Below +2.5 (North Section)	2		100	01DEC04	04DEC04	01DEC04	04DEC04	
AGALMA0900	Taking Up of Rubble Below +2.5 (North Section)	30		100	19DEC04	18FEB05	19DEC04	18FEB05	
AGALMA0910	Placing Leveling Stone (North Section)	10		100	20FEB05	13MAY05	20FEB05	13MAY05	
AGALMA1000	Block Wall Construction (North Section)	25		100	01MAR05	21MAY05	01MAR05	21MAY05	
AGALMA1100	Backfill the Rubble Behind (North Section)	8		100	15MAR05	25JUN05	15MAR05	25JUN05	
AGALMA1200	Backfill G200 Rockfill Behind (North Section)	8	406	0	24SEP05	02OCT05	27JUN05	01JUL05	
AGALMA1300	Reinstatement of Armour & Underlayer	14	1164	0	03OCT05	16OCT05	26JAN05	12FEB05	
Workfront Programme									
Outgoing Works									
ARWPDW0100	Decide Exact Location of Manholes & Catchpits	1		100	27SEP04	27SEP04	27SEP04	27SEP04	
ARWPDW0200	S745 - S730	55		100	21OCT04	08MAY05	21OCT04	08MAY05	
ARWPDW0300	S717 - S720	78		100	22DEC04	22DEC04	22DEC04	28AUG05	
ARWPDW0400	S720 - S730	14	286	0	06JAN05	21JAN05	10FEB05	25FEB05	
ARWPDW0500	S730 - S732	50	270	0	23NOV05	21JAN05	24DEC05	24FEB05	
ARWPDW0600	F421 - TH05	18	470	5	23JUL05	04NOV05	23JUL05	07SEP05	
ARWPDW0650	F414 - F421 (In 2X)	12	356	0	28SEP05	13OCT05	16AUG05	29AUG05	
ARWPDW0700	S745 - Existing Box Culvert	27	256	80	08JUL05	09DEC05	08JUL05	10JAN05	
ARWPDW0710	S747 - Existing Box Culvert	73		100	05NOV04	16DEC04	05NOV04	16DEC04	
ARWPDW0720	S747 - Existing Box Culvert	18	180	30	07JUL05	17DEC05	07JUL05	10JAN05	
ARWPDW0800	225HR & Catchpit/2000.I. along Parapet Wall (2F)	48	260	0	10MAR05	08MAY05	11APR05	07JUN05	
ARWPDW1000	225HR & Catchpit/2000.I. along Parapet Wall (2X)	24	250	0	30MAY05	27JUN05	28JUN05	27JUL05	
ARWPDW1100	225HR & Catchpit/2000.I. along Parapet Wall (2LH)	12	250	0	18MAY05	28MAY05	15JUN05	28JUN05	
ARWPDW1200	225HR & Catchpit/2000.I. along Parapet Wall (2LS)	6	250	0	08MAY05	15MAY05	08JUN05	14JUN05	
ARWPDW1300	225HR & Catchpit/2000.I. Parapet Wall (J.M.L.L.I)	80	260	0	02DEC05	08MAR05	04JAN05	10APR05	

Legend:
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

Supt 0306 10JUN04
 Finish date 20OCT07
 Data date 28SEP05
 Run date 17OCT05
 Page number 2/4
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Leader - Wal Kee (C&T) Joint Venture
 TP37/03 - Revised Works Programme - RP04

Activity ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
ABWPDW1000	225 Perforated Drain (in ZR)	19	18d	0	06MAR06	30MAR06	06MAR06	21APR06	
ABWPDW2000	225 Perforated Drain (in ZK)	18	26d	0	14MAR06	05APR06	17APR06	06MAY06	
ABWPDW3100	225 Perforated Drain (in ZJ)	9	37d	0	09FEB06	18FEB06	24MAR06	03APR06	
ABWPDW2200	225 Perforated Drain (in ZJ5)	5	46d	0	03FEB06	08FEB06	29MAR06	03APR06	
ABWPDW2000	225 Perforated Drain (ZJ - Node P1 South)	24	18d	0	08FEB06	07MAR06	01MAR06	28MAR06	
ABWPDW2350	225 Perforated Drain (ZJ, ZM, ZL1)	18	18d	0	23DEC05	14JAN06	13JAN06	04FEB06	
ABWPDW2400	Remove Existing 3200 Drainpipe	30		100	28APR05 A	03JUN05 A	28APR05 A	09JUN05 A	
Utility Works									
ABWPUT0060	D.I. Pipes & Fittings Delivery On Site	30	-28d	0	01OCT05	30OCT05	05SEP05	04OCT05	
ABWPUT0100	Watermain - Lay S&M Main	18	-56d	0	18NOV05	08DEC05	08SEP05	27SEP05	
ABWPUT0700	PCCW - Lay Cable (in ZR)	48	-17d	0	27JAN06	23MAR06	07JAN06	09MAR06	
ABWPUT0800	PCCW - Lay Cable (in ZK)	22	-17d	0	15APR06	11MAY06	29MAR06	20APR06	
ABWPUT0900	PCCW - Lay Cable (in ZJ)	10	-17d	0	03APR06	14APR06	14MAR06	24MAR06	
ABWPUT1000	PCCW - Lay Cable (in ZJ5)	8	-17d	0	27MAR06	01APR06	07MAR06	13MAR06	
ABWPUT1100	PCCW - Lay Cable (in ZI, ZM, ZL1)	44	32d	0	23DEC05	18FEB06	05FEB06	25MAR06	
ABWPUT1200	HKCG - 32GRP Riser	3	28d	0	08JAN06	11JAN06	13FEB06	15FEB06	
ABWPUT1300	HKCG - 90 GRP Riser	5	28d	0	12JAN06	17JAN06	19FEB06	21FEB06	
ABWPUT1400	HKCG - 83 GRP Riser	3	28d	0	18JAN06	20JAN06	22FEB06	24FEB06	
Public Lighting, Sign and Road									
ABWPKK0000	Public Lighting Ducts & Drains Along Promenade	60	66d	0	14MAR06	24MAY06	28JUN06	04SEP06	
ABWPKK0400	Install Public Lighting	24	86d	0	25MAY06	22JUN06	04SEP06	02OCT06	
Road and Drains									
ABWPRP0100	Lay Paving Block (in ZR)	40	25d	0	06JUL06	02SEP06	07AUG06	02OCT06	
ABWPRP0200	Lay Paving Block (in ZK)	24	25d	0	16JUN06	14JUL06	17JUL06	12AUG06	
ABWPRP0300	Lay Paving Block (in ZJ)	12	27d	0	30MAY06	13JUN06	03JUL06	15JUL06	
ABWPRP0400	Lay Paving Block (in ZJ5)	12	27d	0	18MAY06	29MAY06	17JUN06	30JUN06	
ABWPRP0500	Lay Paving Block (in ZI, ZM, ZL1)	60	32d	0	08FEB06	09MAY06	13MAR06	16JUN06	
Finishing Works									
ABWPFW0100	Finishing Works	60	66d	0	06JUN06	18AUG06	20AUG06	08NOV06	
E & M Works									
ABWPEM0000	Ingotion System	50	117d	0	22APR06	21JUN06	06SEP06	08NOV06	
ABWPEM1000	E & M Works	30	96d	0	23JUN06	26JUL06	03OCT06	08NOV06	
Road Markings, Traffic Signs and Furniture									
ABWPRM0100	Apply Road Marking	30	25d	0	04SEP06	06OCT06	03OCT06	08NOV06	
ABWPRM0200	Erect Signage	21	25d	0	14SEP06	06OCT06	14OCT06	08NOV06	
Landscape Elements									
ABWPHL0100	Planter Wall (in ZR)	60	0	20	22AUG05 A	08MAR06	22AUG05 A	08MAR06	
ABWPHL0200	Planter Wall (in ZK)	28	28d	0	08FEB06	13MAR06	14MAR06	15APR06	
ABWPHL0300	Planter Wall (in ZJ)	13	26d	0	23JAN06	09FEB06	27FEB06	10MAR06	
ABWPHL0400	Planter Wall (in ZJ5)	8	27d	0	23JAN06	02FEB06	25FEB06	09MAR06	
ABWPHL0500	Planter Wall (ZJ - Landscape Node 1 South)	40	18d	0	19DEC05	07FEB06	11JAN06	28FEB06	
ABWPHL0600	Planter Wall (ZM, ZL1, ZJ)	90	16d	20	02JUL05 A	22DEC05	02JUL05 A	12JAN06	
ABWPHL0660	Fill Rock to Parapet Wall Formation (NO086)	60	25d	20	10AUG05 A	24NOV05	16AUG05 A	23DEC05	
ABWPHL0700	Parapet Wall along Seawall (in ZR)	47	25d	0	03MAR06	27APR06	01APR06	27MAY06	
ABWPHL0800	Parapet Wall along Seawall (in ZK)	22	25d	0	23MAY06	17JUN06	22JUN06	18JUL06	
ABWPHL0900	Parapet Wall along Seawall (in ZJ)	12	25d	0	08MAY06	22MAY06	08JUN06	21JUN06	
ABWPHL1000	Parapet Wall along Seawall (in ZJ5)	8	25d	0	28APR06	06MAY06	29MAY06	07JUN06	

Start Date: 10JUN04
 End Date: 20OCT07
 Start Milestone: 28SEP05
 Finish Milestone: 17OCT05
 Page Number: 2A

Legend:
 Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point

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 TP3703 - Revised Works Programme - RP04

Task ID	Description	Start	Finish	Early Start	Early Finish	Low Start	Low Finish	Task Status
AWPHL1100	Parapet Wall along Seawall (In 2J, 2K, 2L, 1)	01/01/2005	02/01/2005	01/01/2005	02/01/2005	01/01/2005	02/01/2005	Completed
AWPHL1200	Construct Parapets (3 nos.)	03/01/2005	05/01/2005	03/01/2005	05/01/2005	03/01/2005	05/01/2005	Completed
AWPHL1300	Water Point WP24-4 to 24-1	06/01/2005	08/01/2005	06/01/2005	08/01/2005	06/01/2005	08/01/2005	Completed
AWPHL1400	Water Point WP23-3 to 22-1	09/01/2005	11/01/2005	09/01/2005	11/01/2005	09/01/2005	11/01/2005	Completed
AWPHL1500	Water Point WP21-3 to 21-1	12/01/2005	01/02/2005	12/01/2005	01/02/2005	12/01/2005	01/02/2005	Completed
AWPHL1600	Water Point WP20-8 to 20-1	02/02/2005	04/02/2005	02/02/2005	04/02/2005	02/02/2005	04/02/2005	Completed
AWPHL1700	Water Point WP19-4 to 19-1	05/02/2005	07/02/2005	05/02/2005	07/02/2005	05/02/2005	07/02/2005	Completed
AWPHL1800	Water Point WP18-3 to 18-2	08/02/2005	10/02/2005	08/02/2005	10/02/2005	08/02/2005	10/02/2005	Completed
AWPHL1900	Water Point WP17-5 to 17-1	11/02/2005	13/02/2005	11/02/2005	13/02/2005	11/02/2005	13/02/2005	Completed
AWPHL2000	Water Point WP16-3 to 16-1	14/02/2005	16/02/2005	14/02/2005	16/02/2005	14/02/2005	16/02/2005	Completed
AWPHL2200	ASD's Contractor Works	17/02/2005	22/02/2005	17/02/2005	22/02/2005	17/02/2005	22/02/2005	Completed

ASD's Contractor Works

Task ID	Description	Start	Finish	Early Start	Early Finish	Low Start	Low Finish	Task Status
AWPHL2300	Propose Monitoring Plan for DSD's Submarine Pipe	01/03/2005	06/03/2005	01/03/2005	06/03/2005	01/03/2005	06/03/2005	Completed
AWPHL2400	Engineer & DSD Approval of Monitoring Plan	07/03/2005	09/03/2005	07/03/2005	09/03/2005	07/03/2005	09/03/2005	Completed
AWPHL2500	Setup Monitoring for DSD's Submarine Pipeline	10/03/2005	14/03/2005	10/03/2005	14/03/2005	10/03/2005	14/03/2005	Completed
AWPHL2600	Drilling & CPPT	15/03/2005	11/04/2005	15/03/2005	11/04/2005	15/03/2005	11/04/2005	Completed
AWPHL2700	Taking Up of Existing Armour to +2.5	12/04/2005	06/05/2005	12/04/2005	06/05/2005	12/04/2005	06/05/2005	Completed
AWPHL2800	Taking Up of Existing Underlayer to +2.5	07/05/2005	13/05/2005	07/05/2005	13/05/2005	07/05/2005	13/05/2005	Completed
AWPHL2900	Taking Up of Existing Rubble to +2.5	14/05/2005	19/05/2005	14/05/2005	19/05/2005	14/05/2005	19/05/2005	Completed
AWPHL3000	Taking Up of Existing Armour Below +2.5	20/05/2005	27/05/2005	20/05/2005	27/05/2005	20/05/2005	27/05/2005	Completed
AWPHL3100	Taking Up of Underlayer Below +2.5	28/05/2005	06/06/2005	28/05/2005	06/06/2005	28/05/2005	06/06/2005	Completed
AWPHL3200	Taking Up of Existing Rubble Below +2.5	07/06/2005	13/06/2005	07/06/2005	13/06/2005	07/06/2005	13/06/2005	Completed
AWPHL3300	Taking Up of rubble at Seawall Foundation	14/06/2005	18/06/2005	14/06/2005	18/06/2005	14/06/2005	18/06/2005	Completed
AWPHL3400	Dredging of Marine Mud	19/06/2005	24/06/2005	19/06/2005	24/06/2005	19/06/2005	24/06/2005	Completed
AWPHL3500	Placing of Rubble Foundation	25/06/2005	29/06/2005	25/06/2005	29/06/2005	25/06/2005	29/06/2005	Completed
AWPHL3600	Placing Leveling Stone	30/06/2005	03/07/2005	30/06/2005	03/07/2005	30/06/2005	03/07/2005	Completed
AWPHL3700	Block Wall Construction 2 Layers from Bottom (N)	04/07/2005	08/07/2005	04/07/2005	08/07/2005	04/07/2005	08/07/2005	Completed
AWPHL3800	Block Wall Construction 2 Layers from Bottom (S)	09/07/2005	13/07/2005	09/07/2005	13/07/2005	09/07/2005	13/07/2005	Completed
AWPHL3900	Block Wall Construction to Top Level	14/07/2005	18/07/2005	14/07/2005	18/07/2005	14/07/2005	18/07/2005	Completed
AWPHL4000	Placing of Bermentones	19/07/2005	23/07/2005	19/07/2005	23/07/2005	19/07/2005	23/07/2005	Completed
AWPHL4100	Backfill the Rubble Behind	24/07/2005	28/07/2005	24/07/2005	28/07/2005	24/07/2005	28/07/2005	Completed
AWPHL4200	Backfill the G200 Rockfill Behind	29/07/2005	02/08/2005	29/07/2005	02/08/2005	29/07/2005	02/08/2005	Completed
AWPHL4300	Submit Shop Drawings & Calculation of Roof Cover	03/08/2005	07/08/2005	03/08/2005	07/08/2005	03/08/2005	07/08/2005	Completed
AWPHL4400	Engineer Approval of Shop Drawings & Calculation	08/08/2005	12/08/2005	08/08/2005	12/08/2005	08/08/2005	12/08/2005	Completed
AWPHL4500	Procurement of Pyramid Skylight	13/08/2005	17/08/2005	13/08/2005	17/08/2005	13/08/2005	17/08/2005	Completed
AWPHL4600	Procurement of Structural Steel	18/08/2005	22/08/2005	18/08/2005	22/08/2005	18/08/2005	22/08/2005	Completed
AWPHL4700	Delivery of Pyramid Skylight	23/08/2005	27/08/2005	23/08/2005	27/08/2005	23/08/2005	27/08/2005	Completed
AWPHL4800	Delivery of Structural Steel	28/08/2005	31/08/2005	28/08/2005	31/08/2005	28/08/2005	31/08/2005	Completed
AWPHL4900	Inspection & Testing	01/09/2005	05/09/2005	01/09/2005	05/09/2005	01/09/2005	05/09/2005	Completed
AWPHL5000	Fabrication & Painting of Steel Works	06/09/2005	10/09/2005	06/09/2005	10/09/2005	06/09/2005	10/09/2005	Completed
AWPHL5100	Concrete Capping with 10 tonnes Bollard & Handrail	11/09/2005	15/09/2005	11/09/2005	15/09/2005	11/09/2005	15/09/2005	Completed
AWPHL5200	Construct Shelter Footing	16/09/2005	20/09/2005	16/09/2005	20/09/2005	16/09/2005	20/09/2005	Completed
AWPHL5300	Construct Shelter Column	21/09/2005	25/09/2005	21/09/2005	25/09/2005	21/09/2005	25/09/2005	Completed

Legend:

- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

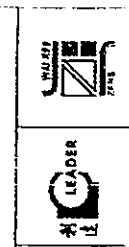
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 Finish date: 20/07/2007
 Data date: 28/06/2007
 Run date: 17/07/2007
 P2P number: 20A

C Primavera Systems, Inc.

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ID	Description	Unit Dur	Total Float	Percent Complete	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
Section 13										
Area SA1, SA2, SA3, SA4 & SA6										
Landscape Soilworks										
BSAUSL0100	Soil Mix (Area SA1 - South Section)	30	1130	0	10APR06	15MAY06	28AUG06	28SEP06		
BSAUSL0200	Soil Mix (Area SA1 - North Section)	30	1070	0	17APR06	22MAY06	23AUG06	28SEP06		
BSAUSL0300	Soil Mix (Car Park, Loading & Unloading Area)	6	510	0	07SEP06	08SEP06	03NOV06	08NOV06		
BSAUSL0400	Soil Mix (Area Adjacent Road SL3)	30	570	0	18JUN06	21JUL06	23AUG06	28SEP06		
BSAUSL0500	Planting Works	60	570	0	22JUL06	28SEP06	27SEP06	07DEC06		
BSAUSL0600	Planting Works (Car Park, Loading/Unloading Area)	6	850	0	06SEP06	15SEP06	20DEC06	20DEC06		
Area SA8, SA9, SA16, SA18, SA17 & SA18										
Landscape Soilworks										
BSAUSL0100	Planting Works	45	1070	0	24MAY06	17JUL06	28SEP06	21NOV06		
BSAUSL0200	Groundcovers Works	30	1070	0	18JUL06	21AUG06	22NOV06	28DEC06		
Section 14										
Area SA8, SA11B & SA14										
Establishment Works										
BAAAEW0100	Establishment Works	300	-1270	0	28JUL06	21JUL07	23FEB06	17FEB07		
Section 15										
Area SA7, SA10, SA11A, SA12 & SA13										
Establishment Works										
BSAIEW0100	Establishment Works	300	200	0	19OCT06	12OCT07	11NOV06	06NOV07		
Section 16										
Area SA1, SA2, SA3, SA4 & SA5										
Establishment Works										
BSAIEW0200	Establishment Works	320	570	0	30SEP06	20OCT07	08DEC06	28DEC07		
Area SA8, SA9, SA16, SA18, SA17 & SA18										
Establishment Works										
BAAIEW0100	Establishment Works	300	1110	0	22AUG06	15AUG07	02JAN07	28DEC07		

■ Soil Mix (Area SA1 - South Section)
 ■ Soil Mix (Area SA1 - North Section)
 ■ Soil Mix (Car Park, Load
 ■ Soil Mix (Area Adjacent Road SL3)
 ■ Planting Works
 ■ Planting Works (Car P
 ■ Planting Works
 ■ Groundcovers Works

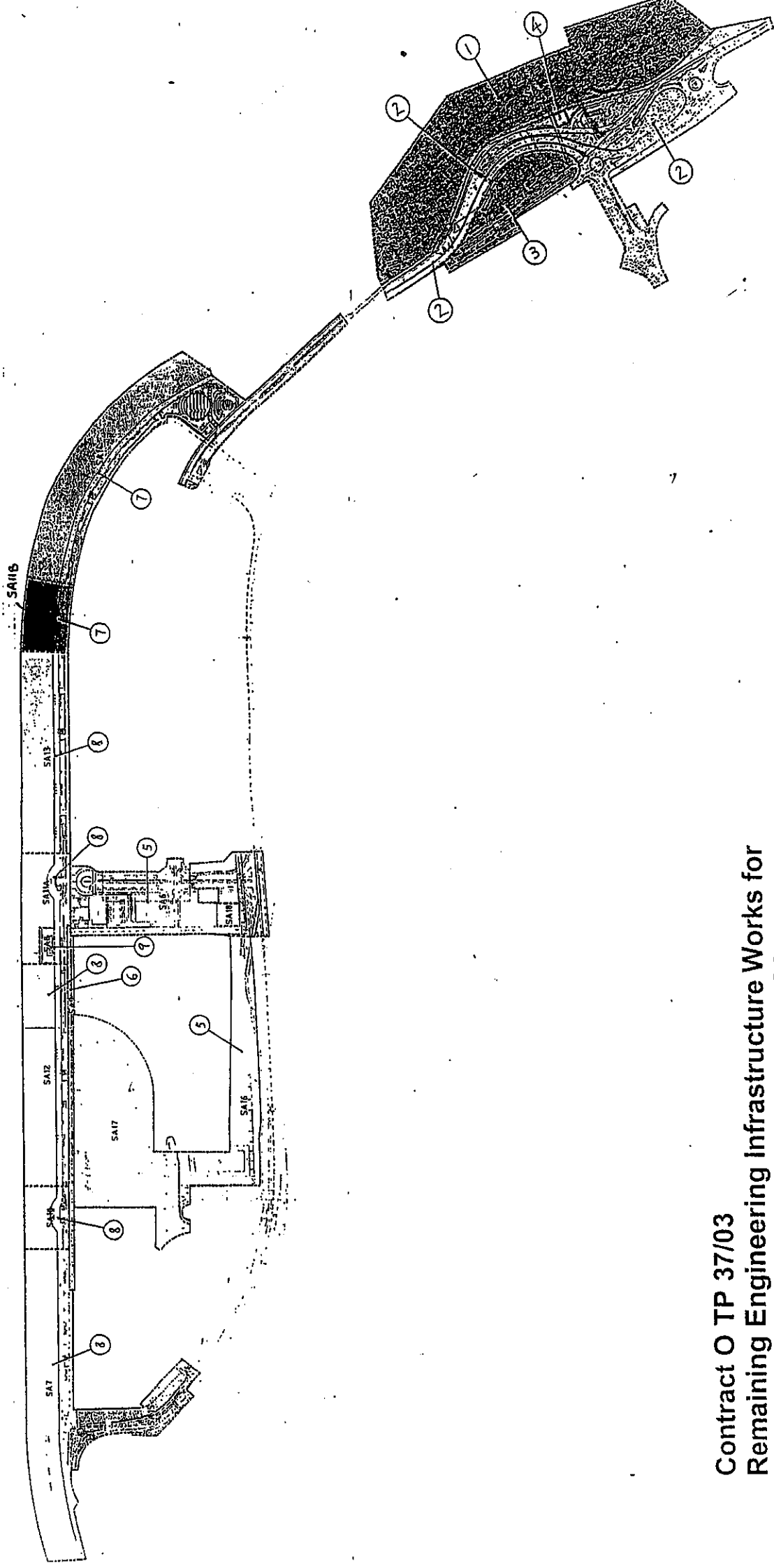


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 TP37/03 - Revised Works Programme - RP04



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

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 2 May 2006 Inspected by : Sunny Yeung (LWKJM) (ET) H.T. Chow
 Time : 15:00 Signature :  

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 28 °C
 Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
Air Quality				
▪ 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"/>			#2
▪ 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"/>			
Noise				
▪ 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Water Quality				
General Construction Activities				
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓			# 3, #4, #5 & #7
▪ 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.	✓			# 2
▪ Open stockpiles of more than 50m ³ should be covered.	✓			# 2
▪ 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.	✓			
Dredging Activities				
▪ 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

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
Filling Activities			
• Use of silt screen around the filling face to reduce the losses to the surrounding.	✓		# 1
• 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.		✓	
Waste Management			
Marine Dredged Sediment			
• 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 ³ 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.		✓	
Construction and Demolition (C&D) Waste			
• 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 protect 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 from 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

	Implementation Stages*		Remark
	Yes	No	
	N/A		
Mitigation Measures on Waste Management			
• 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

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
• 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 displaced conspicuously on site		✓	# 6
• 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.	✓		

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

Table for follow-up Action:

Item	Details of defective works or observations	Location	Further action to be taken (Included persons / party to take action)	Expected Date for Action taken
#1	Follow up action to the previous site inspection item ① on (23-3-06), item #1 (1-4-06), item #1 (6-4-06), item #1 (13-4-06), item #1 (20-4-06) and item #1 (26-4-06), still curtain at "Node 2" was still found partly damaged.	Node 2	The Contractor should repair the damaged parts of the curtain immediately.	9-5-06
#2	Follow up action to the previous site inspection item ③ on (23-3-06), item #3 (1-4-06), item #3 (6-4-06), item #3 (16-4-06), item #3 (20-4-06) and #2 (26-4-06), stockpiles at SA-1 and SA-3 were still found partly covered.	Ma Tin Shui (SA1 & SA3)	The Contractor was reminded to cover all stockpiles.	9-5-06
#3	Follow up action to the previous site inspection item ① on (20-4-06) and item #3 (26-4-06), a channel next to the stockpile at Node 1 was still found to be blocked by sand and mud.	Node 1	The Contractor was reminded to clean up the channel immediately.	9-5-06
#4	Follow up action to the previous site inspection item ① on (26-4-06), water ponding at Node 3 and Ma Tin Shui was pumped-out, but rain water was still found accumulated at Porton H.	Porton H, Node 3 Ma Tin Shui	The Contractor was reminded to level the ponding area.	9-5-06
#5	Follow up action to the previous site inspection item ① on site 2008, was still accumulated in the drainage channel at Voided Abatement.	Voided Abatement	The accumulated site runoff should be pump out and treated before discharge.	9-5-06
#6	Follow up action to the previous site inspection item ⑤ on 26-4-06, EP was still not pass at Voided Abatement & SA1 site entrance.	SA-1 & Voided Abatement	The Contractor should post the EP at the site entrance.	9-5-06
#7	Follow up action to the previous site inspection item ② on 26-4-06, wastewater from wheel washing was still found accumulated near the SA1 site entrance.	SA-1	The Contractor should collect the wastewater and treated before discharge.	9-5-06

Signature:	RSS	LWKJIV	ET
Name:	Sunny Young	W	S.S.B.
Date:	2-5-2006	2 May 06	H.T. Chow
			2-5-2006

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 9 May 2006 Inspected by Name : (RSS) Sunny Young (LWKJM) *Sunny Young* (ET) H. T. Chow
 Time : 13:50 Signature : *Sunny Young*
 Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 31°C
 Wind : Calm / Light / Breeze / Strong Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
Air Quality				
▪ 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.		✓		# 2
▪ Unpaved areas should be watered regularly to avoid dust generation.		✓		Item 1
▪ The public road around the site entrance should be kept clean and free from dust.		✓		Item 1
▪ 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.	✓			
Noise				
▪ 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, 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 barriers 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

	Implementation Stages*	Implementation Stages*		Remark
		Yes	No	
Mitigation Measures on Waste Management				
Water Quality				
General Construction Activities				
▪ 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 ³ should be covered.		✓		# 2
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.		✓		# 2
▪ 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.		✓		
Dredging Activities				
▪ 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

	Implementation Stages*			Remark	
	Yes	No	N/A		
Mitigation Measures on Waste Management					
Filling Activities					
<ul style="list-style-type: none"> ▪ 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. 	✓				
Waste Management					
Marine Dredged Sediment					
<ul style="list-style-type: none"> • 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 750m³ 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. 	✓				
Construction and Demolition (C&D) Waste					
<ul style="list-style-type: none"> • 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 protect 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 from 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• 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 displaced 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:

Item	Details of defective works or observations	Location	Further action to be taken (Included persons / party to take action)	Expected Date for Action taken
#1	Follow up action to the previous site inspection item ① on (23-3-06), item #1 (1-4-06), item #1 (6-4-06), item #1 (13-4-06), item #1 (20-4-06), item #1 (26-4-06), silt curtain at Node 2 was repaired, and item # (2-5-06)	Node 2	Follow up action was completed, no further action to be taken.	N/A
#2	Follow up action to the previous site inspection item ⑤ on (23-3-06), item #3 (1-4-06), item #3 (6-4-06), item #3 (16-4-06), item #3 (20-4-06), #2 (26-4-06), stockpiles at SA1 was covered by tarpaulin sheets, but stockpile of SA3 was still found without covered.	Ma Liu Shui (SA1 & SA3)	The Contractor was reminded to cover all stockpiles.	18-5-06
#3	Follow up action to the previous site inspection item ① on (20-4-06), item #3 (26-4-06) and item #3 (28-06), the u-channel at Node 1 was cleaned up.	Node 1	Follow up action was completed, no further action to be taken.	N/A
#4	Follow up action to the previous site inspection item ① on (26-4-06), item #4 (2-5-06), temporary ditches were provided for release the ponding water.	Position H, Node 3, Ma Liu Shui	-	-
#5	Follow up action to the previous site inspection item ③ on (26-4-06) and item #5 on (2-5-06), no site runoff was accumulated in the channel.	Voided Abutment	-	-
#6	Follow up action to the previous site inspection item ③ on (26-4-06) and item #6 on (2-5-06), EP was displaced on site entrance.	SA-1 & Voided Abutment	-	-
#7	Follow up action to the previous site inspection item ④ on (26-4-06) and item #7 on (2-5-06), no waste water was accumulated near the SA-1 site entrance.	SA-1	-	-
①	Dust generation was found at SA-14.	SA-14	The Contractor was reminded to spray water more frequently on haulroad and unpaved area.	18-5-06
Signature:		LWKJV	ET	
Name:	Sammy Yung		H. T. Chow	
Date:	9.5.06		9-5-2006	



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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 17 May 2006 Inspected by Name : (RSS) Eric Leung (LWKJ) Ben Yap (ET) H.-T. Chow
 Time : 10:00 Signature : *[Signature]*
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 22 °C
 Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
Air Quality				
▪ 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"/>			
Noise				
▪ 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 NSRRs.	<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	
Water Quality			
General Construction Activities			
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 ³ 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.	✓		
Dredging Activities			
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

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
Filling Activities			
▪ 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.	✓		
Waste Management			
Marine Dredged Sediment			
▪ 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 ³ 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.	✓		
Construction and Demolition (C&D) Waste			
▪ 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 protect 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 from 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

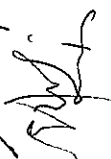
	Implementation Stages*		Remark
	Yes	No N/A	
Mitigation Measures on Waste Management			
• Proper storage will minimize the damage and thus the wastage of the materials	✓		
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of 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 awareness 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• 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 displaced 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.	✓			

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 23/05/06
 Time : 10:30
 Inspected by : Sunny Yang (LWKW) Name : (RSS)
 Signature :  (ET) Linda Lam
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong Humidity : High / Moderate / Low
 Temperature : 26°C

	Implementation Stages*		Remark
	Yes	No / N/A	
Air Quality			
▪ 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.	/		
Noise			
▪ 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, be orientated so that the noise is directed away from NSRs.	/		
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	/		
▪ Noise enclosures, noise barriers, or portable noise barriers 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

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
Water Quality			
General Construction Activities			
▪ 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 ³ 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.	/		
Dredging Activities			
▪ 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	
Filling Activities			
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 transportation.	/		
Waste Management			
Marine Dredged Sediment			
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 ³ 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.	/		
Construction and Demolition (C&D) Waste			
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 protect 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		
<ul style="list-style-type: none"> Proper storage will minimize the damage and thus the wastage of the materials 	/				
<ul style="list-style-type: none"> 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. 	/				
<ul style="list-style-type: none"> Chemical Waste 					
<ul style="list-style-type: none"> 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. 	/				
<ul style="list-style-type: none"> 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. 	/				
<ul style="list-style-type: none"> 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. 	/				
<ul style="list-style-type: none"> Containers used for the storage of chemical wastes 					
<ul style="list-style-type: none"> Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed 	/				
<ul style="list-style-type: none"> Have a capacity of less than 450L unless the specification have been approved by the EPD 	/				
<ul style="list-style-type: none"> 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 	/				
<ul style="list-style-type: none"> Labelling 					
<ul style="list-style-type: none"> Every container of chemical waste would bear an appropriate label, which would contain the particulars details. 	/				
<ul style="list-style-type: none"> 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 	/				
<ul style="list-style-type: none"> Storage Area 					
<ul style="list-style-type: none"> Be clearly labeled and used solely for the storage of chemical waste 	/				
<ul style="list-style-type: none"> Be enclosed on at least 3 sides 	/				
<ul style="list-style-type: none"> 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 	/				
<ul style="list-style-type: none"> Have adequate ventilation 	/				
<ul style="list-style-type: none"> Be covered to prevent rainfall entering 	/				
<ul style="list-style-type: none"> Be arranged so that incompatible materials are adequately separated 	/				
<ul style="list-style-type: none"> Be clean and maintain regularly 	/				
<ul style="list-style-type: none"> Disposal 					
<ul style="list-style-type: none"> Be via a licensed waste collector 	/				
<ul style="list-style-type: none"> To a licensed disposal facility, such as Chemical Waste Treatment Centre 	/				
<ul style="list-style-type: none"> 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.	✓			
•	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 displaced 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.	✓			②

Table for follow-up Action:

Item	Details of defective works or observations	Location	Further action to be taken (included persons / party to take action)	Expected Date for Action taken
Previous findings				
#1	Follow up action to the previous site inspection item ③ on 23/3/16, item #3 on 6/4/16, item #3 on 16/4/16, item #3 on 20/4/16, item #2 on 24/4/16, item #2 on 9/5/16 and item #1 on 17/5/16, stockpile areas at SA-3 was found cover with tarpaulin sheets.	SA-3	Follow up action was completed and hence no further action to be taken.	N/A
New findings.				
①	An Excavator (P23) emitted black smoke during operating at SA-3.	SA-3	The Contractor should stop to used the defective machine and repair it immediately. Proper maintenance should be provided for all site machines.	01/6/16
②	Oil spillage was observed from the repairing / maintenance works of site machines at Work Shop.	Work Shop	The Contractor should provide plastic sheet for placing on the ground before repairing / maintenance works.	01/6/16

Signature:	RSS	LWKJV	ET
Name:	<i>Jimmy Young</i>	<i>Li</i>	<i>Lida Lam</i>
Date:	23.5.2016	<i>Be-ke</i>	<i>Linda Lam</i>
		<i>23 May 2016</i>	<i>23/5/16</i>



Appendix I

IEC and RE Comments on Monthly EM&A Report

—
April 2006

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

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



Appendix J

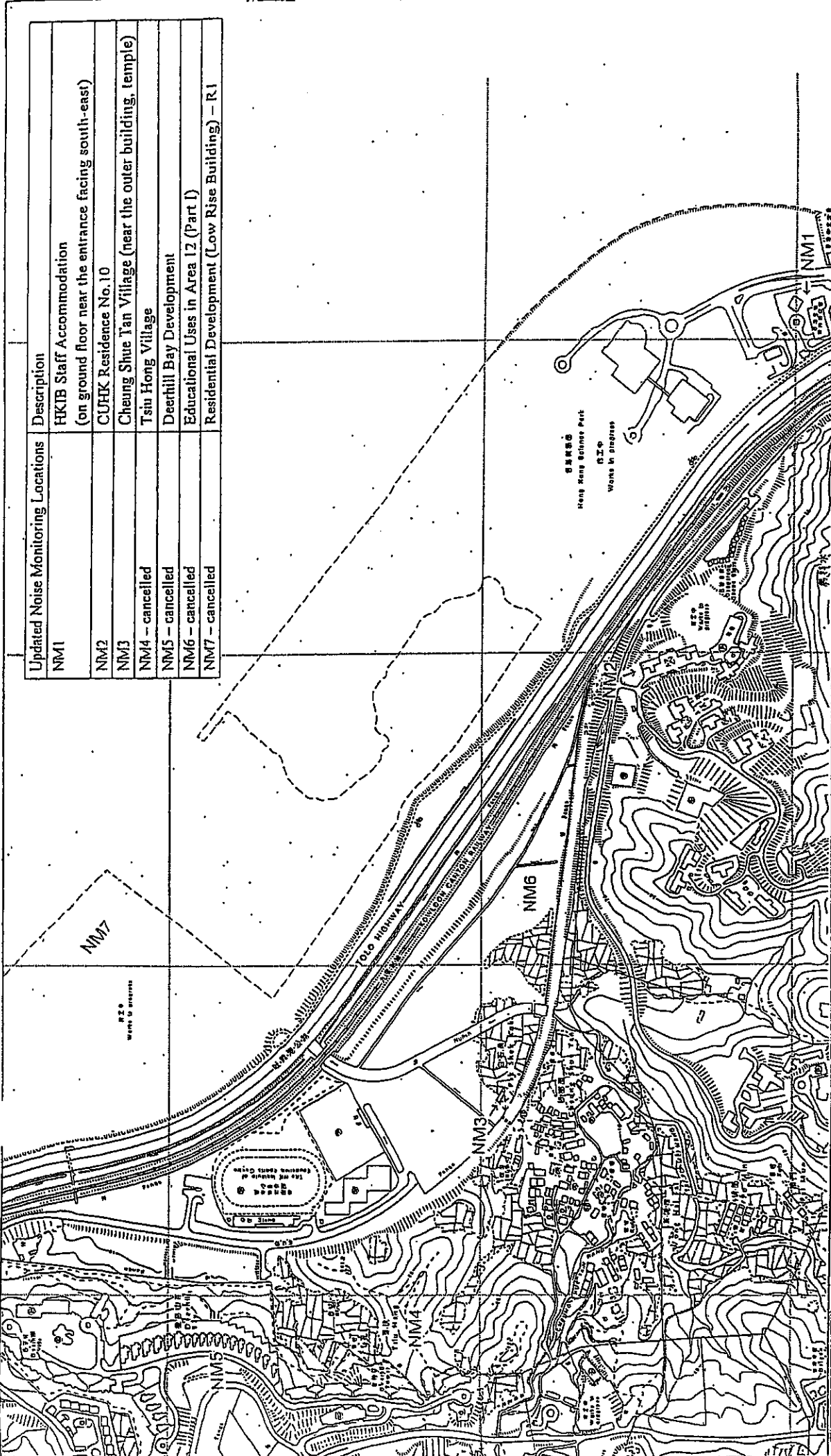
Wastewater Monitoring

—

Test Reports of Wastewater Samples from Discharge Points



Figures

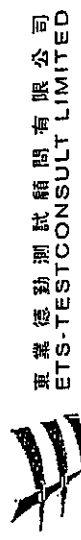


Updated Noise Monitoring Locations	Description
NM1	HKTB Staff Accommodation (on ground floor near the entrance facing south-east)
NM2	CUFHK Residence No.10
NM3	Cheung Shue Tan Village (near the outer building, temple)
NM4 - cancelled	Tsui Hong Village
NM5 - cancelled	Deerhill Bay Development
NM6 - cancelled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

Scale : ----

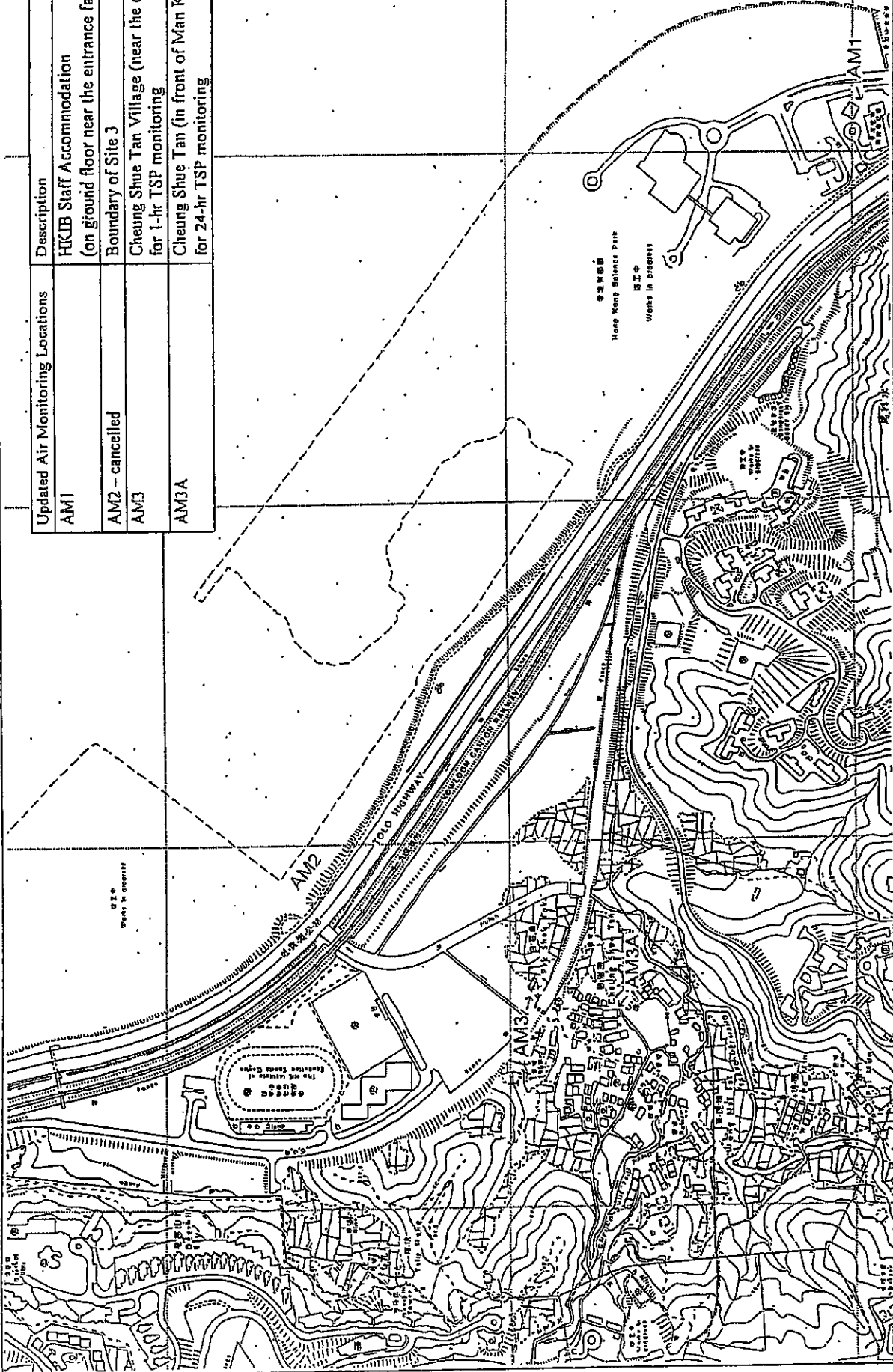
Revised Date: ...

June 2004



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

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



Scale : ---

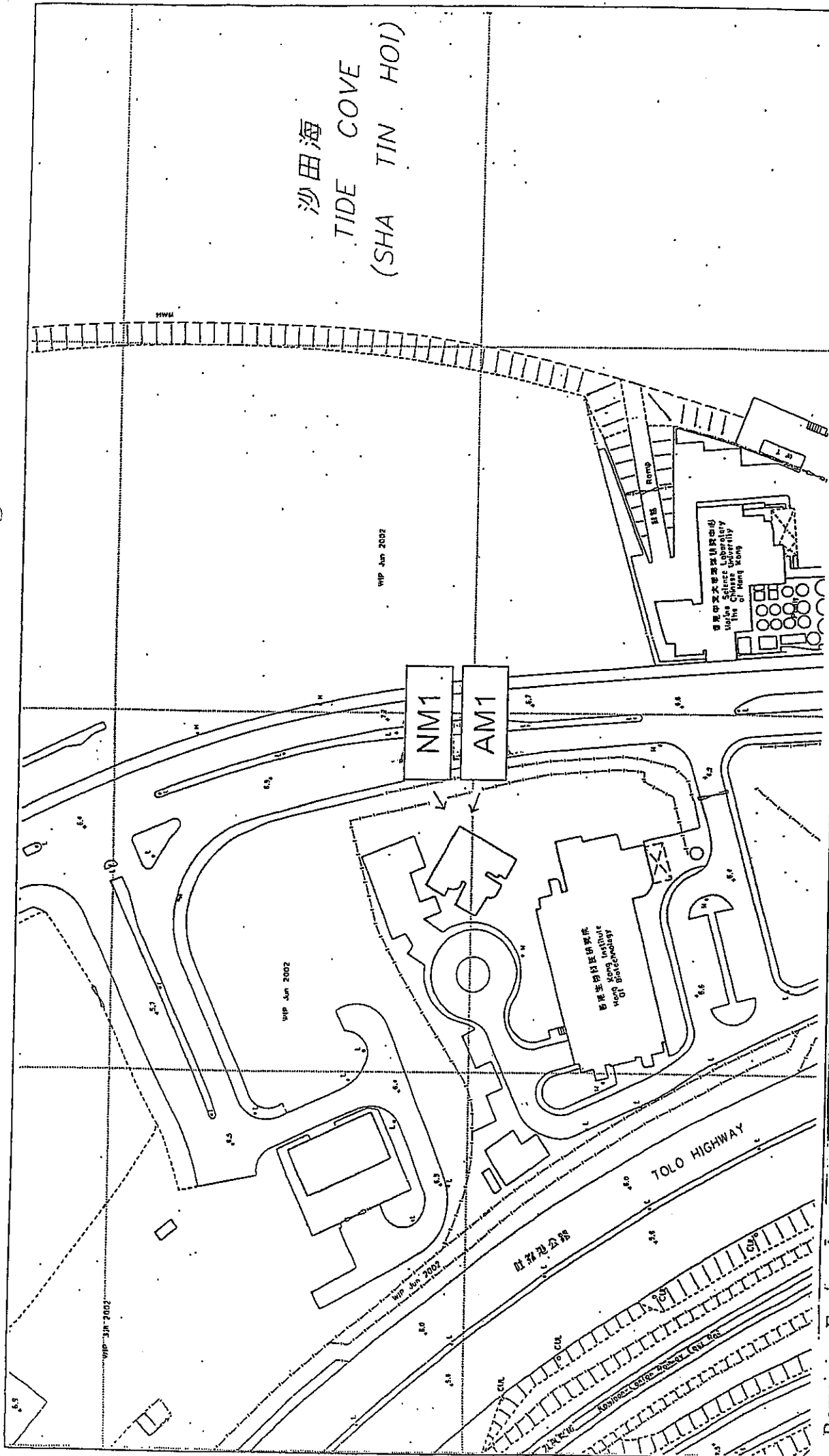
Revised Date:

June 2004



東業德動測試顧問有限公司
ETS-TESTCONSULT LIMITED

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



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

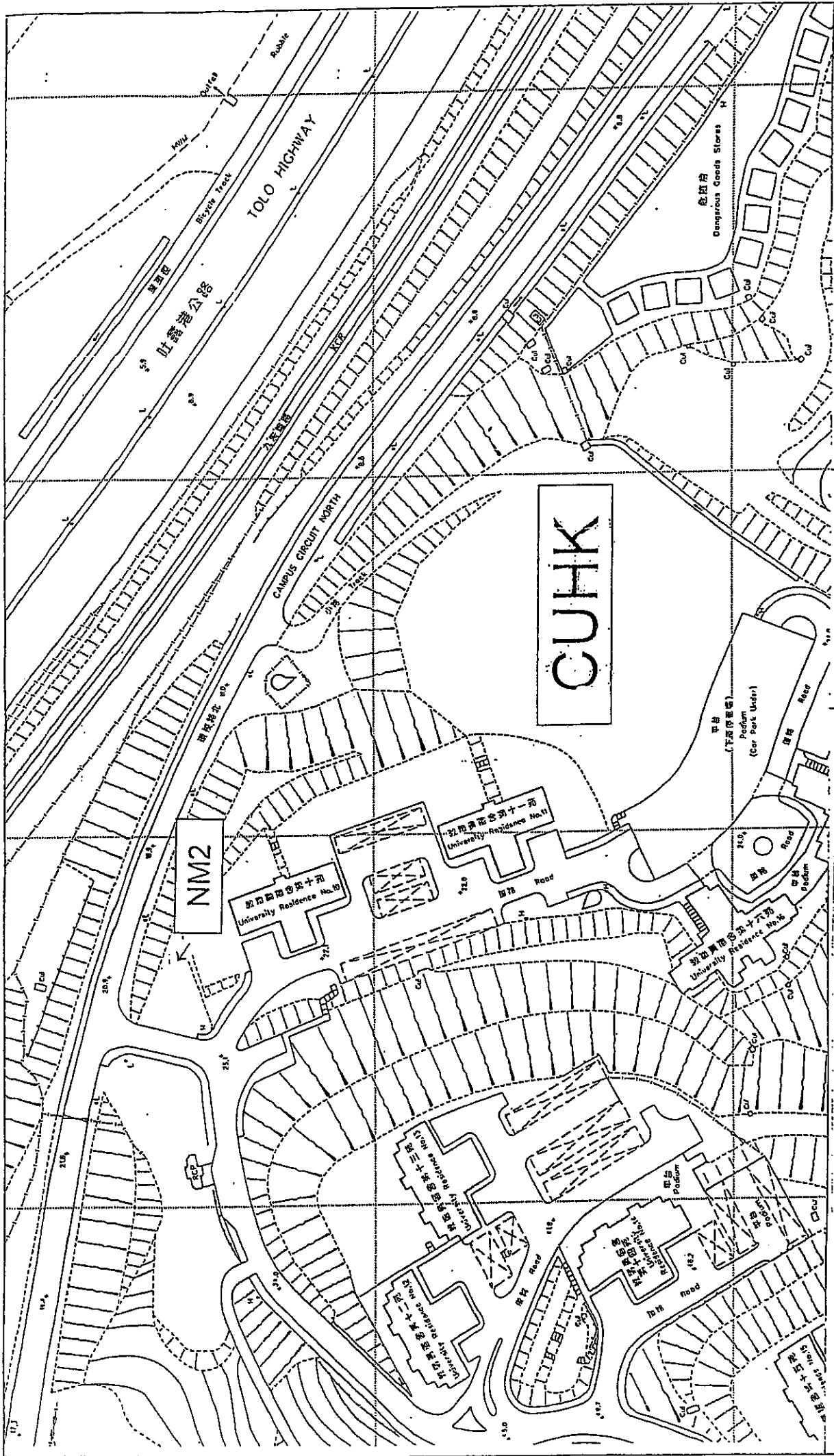
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Revised Date:

June 2004



東業德勤測試顧問有限公司
 ETS-TESTCONSULT LIMITED



專業儀器測試顧問有限公司
ETS-TESTCONSULT LIMITED

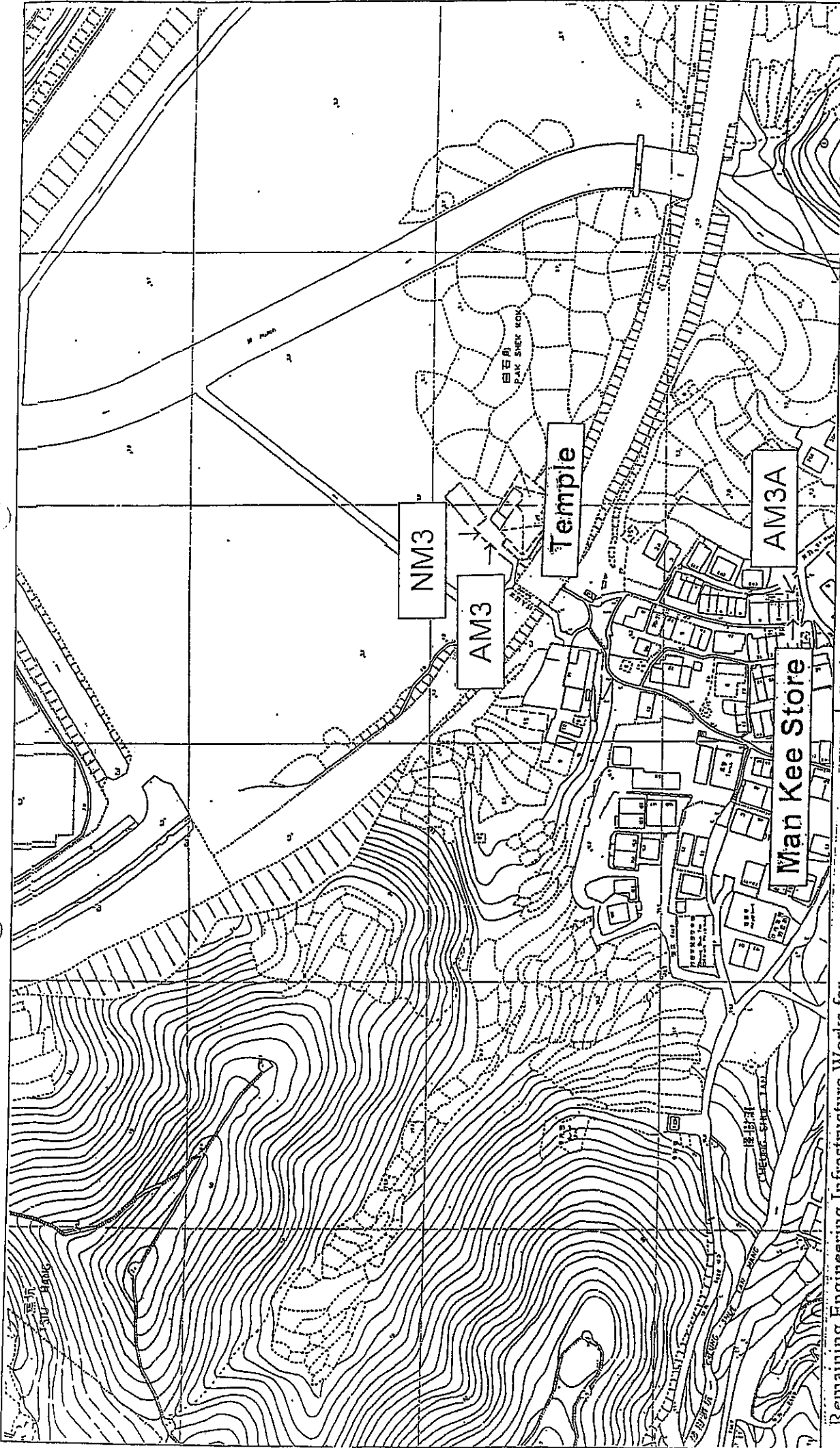
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Revised Date:

June 2004

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 2 A
 Contract No. TP 37/03
 Figure 5 Location of Air and Noise Monitoring Stations
 at Cheung Shue Tan Village

Scale : ---

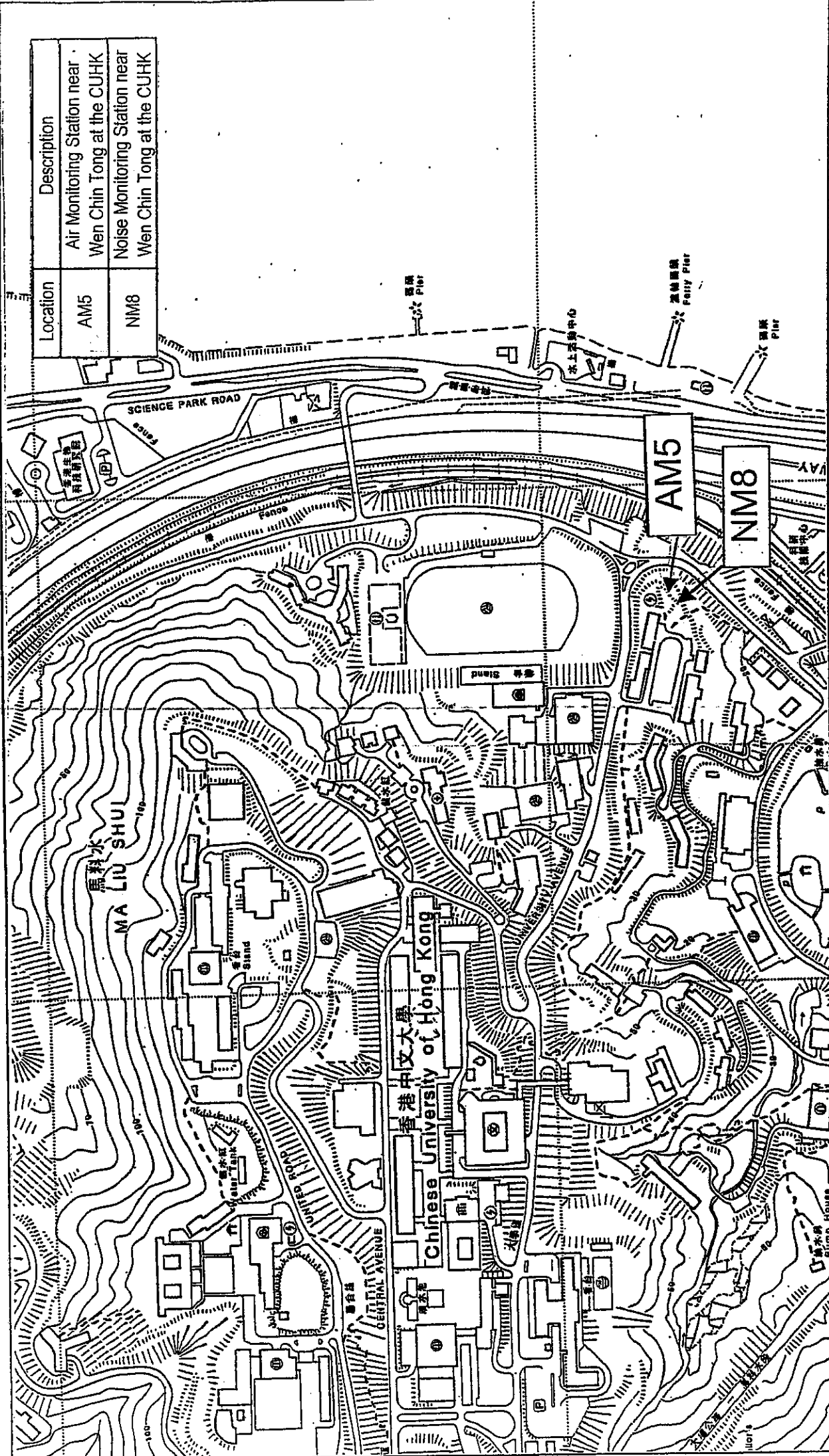
Revised Date:

June 2004



東業德勁測試顧問有限公司
 ETS-TESTCONSULT LIMITED

Location	Description
AM5	Air Monitoring Station near Wen Chin Tong at the CUHK
NM8	Noise Monitoring Station near Wen Chin Tong at the CUHK



Scale : ----

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



東業德動測試顧問有限公司
ETS-TESTCONSULT LIMITED