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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

(APRIL 2006)

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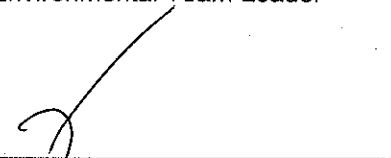
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EXECUTIVE SUMMARY

This monthly EM&A report (No.12) 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 30 April 2006.

Construction Progress

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

- Drainage works (Excavation, pipe laying and breaking) at Section 1 & 2 (Ma Liu Shui), 5 (Road L4), 7 and 8 (Promenade) of the Works
- Installation of precast concrete planter units at Section 7 & 8 (Promenade) of the Works
- Installation of watermain at Section 5 (Road L4) and 7 (Science Park Road) of the Works
- Road works at Section 5 (Road L4) and 6 (the proposed cycle track) of the Works
- Construction of ground beams at Voided Abutment, welding of pile head steel plates at North Abutment for the Alternative Design of the proposed Ma Liu Shui Bridge
- Excavation of the formation of the RE wall of the proposed Ma Liu Shui Bridge (Alternative Design)
- Excavation of foundation construction and blinding laying of the proposed Ma Liu Shui Subway (Alternative Design)
- Excavation of foundation construction of the pump house of the proposed Ma Liu Shui Subway (Alternative Design)
- Excavation and construction of the base slab of the Retaining Wall No.1
- Construction of shelter footing at the proposed Public Landing Steps
- Concreting of precast outfall units at the proposed Landscape Node P2 & P3
- Reinstatement of sloping seawalls at the proposed Landscape Node P3
- Construction of Kerb planter wall and lighting footing at the proposed Public Plaza at Section 7 of the Works
- 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): 4 Occasions at 4 designated locations
- 24-hour TSP Monitoring: 5 Occasions at 3 designated locations
- 1-hour TSP Monitoring: 13 Occasions at 3 designated locations
- Weekly-site inspection: 5 Occasions

Noise Monitoring

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

Air Monitoring

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

Wastewater Monitoring

The test report of wastewater sample collected at Ma Liu Shui Pier 1 on 31 March 2006 had been submitted to the EPD at 14 April 2006 (Ref No.: J0402/03.09/06/7733).

During this reporting month, wastewater monitoring was carried out at Ma Liu Shui SA3 on 11 April 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

Site Inspection

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

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
Weekly site inspection (ET)	01, 06, 13, 20, 26
Monthly site inspection (IEC/LWKJV/RE)	26



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	Water	Follow up action to the finding of the previous month, silt curtain at Node 2 were still found damaged during weekly site inspections (01/04/06, 06/04/06, 13/04/06, 20/04/06 and 26/04/06).	LWKJV replied to repair the damaged part of the silt curtain immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
2	Chemical	Follow up action to the finding of the previous month, two oil containers were found without labels during weekly site inspections (01/04/06, 06/04/06 and 13/04/06).	LWKJV replied to add appropriate labels to the oil containers.	During the subsequent weekly site inspection (20/04/06), appropriate labels were found to be post on these oil containers. Hence, the finding was improved and no further action was required.
3	Air	Follow up action to the finding of the previous month, stockpiles of filling materials at Ma Liu Shui SA1 and SA3 were partly covered during weekly site inspections (01/04/06, 06/04/06, 13/04/06, 20/04/06 and 26/04/06).	LWKJV replied to provide water spraying to the stockpiles and cover them during the nighttime and holidays.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
4	Water	Underground water and site runoff was found direct discharged to the drainage channel without any treatment at Ma Liu Shui SA3 during weekly site inspections (01/04/06, 06/04/06, 13/04/06 and 20/04/06)	LWKJV replied to divert the underground water and site runoff to the sedimentation system before discharge.	During the subsequent weekly site inspection (26/04/06), site runoff at Ma Liu Shui SA3 was found discharged after treated at the sedimentation tank. Hence, the finding was improved and no further action was required.
5	Water	Drainage channel at Node 1 was found to be blocked by mud and sand during weekly site inspections (01/04/06 and 06/04/06)	LWKJV replied to clean up the blocked channel immediately,	During the subsequent weekly site inspection (13/04/06), the blocked drainage channel had been clean up. Hence, the finding was improved and no further action was required.
6	Air	Haul road and unpaved area at SA14 was found to be dry during weekly site inspections (06/04/06 and 13/04/06). Dust was observed during the vehicle traveling and other construction activities.	LWKJV replied to provide regular water spraying on the haul road and unpaved area.	During the subsequent weekly site inspection (13/04/06), watering was observed at the haul road and unpaved area at SA14 and no dust was observed. Hence, the finding was improved and no further action was required.
7	Water	U-channel next to the stockpile at Node 1 was found blocked by sand and mud during weekly site inspections (20/04/06 and 26/04/06)	LWKJV replied to clean up the blocked U-channel immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
8	Water	Large amount of rainy water was found to be accumulated at Portion H, Node 3 and Ma Liu Shui during weekly site inspection (26/04/06).	LWKJV replied to drain the rainy water and treat before discharge.	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	Water	Site runoff was found to be accumulated in the drainage channel at Voided Aboutment during weekly site inspection (26/04/06)	LWKJV replied to clean up drainage channel, and drain the accumulated water and treat before discharge.	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.
10	Water	Wastewater from wheel washing was found accumulated near the SA1 site entrance during weekly site inspection (26/04/06).	LWKJV replied to divert the wastewater generated from wheel washing to sedimentation system before discharge.	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.
11	Site Practice	No EP was post at Voided Aboutment and SA1 site entrance during weekly site inspection (26/04/06).	LWKJV replied to post the valid EP at these areas immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.

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. 1540m³ inert C&D materials, 5kg metals, 60kg paper/cardboard packaging, 3kg plastics and 32130kg 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 30 April 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 (Ma Liu Shui), 5 (Road L4), 7 and 8 (Promenade)
Installation of precast concrete planter units	Section 7 & 8 (Promenade)
Installation of watermain	Section 5 (Road L4) and 7 (Science Park Road)
Road works	Section 5 (Road L4) and 6 (the proposed cycle track)
Construction of ground beams at Voided Abutment, welding of pile head steel plates	North Abutment for the Alternative Design of the proposed Ma Liu Shui Bridge
Excavation of the formation of the RE wall	Proposed Ma Liu Shui Bridge (Alternative Design)
Excavation of foundation construction and blinding laying	Proposed Ma Liu Shui Subway (Alternative Design)
Excavation of foundation construction of the pump house	Proposed Ma Liu Shui Subway (Alternative Design)
Excavation and construction of the base slab	Retaining Wall No.1
Construction of shelter footing	Proposed Public Landing Steps
Concreting of precast outfall units	Proposed Landscape Node P2 & P3
Reinstatement of sloping seawalls	Proposed Landscape Node P3
Construction of Kerb planter wall and lighting footing	Proposed Public Plaza at Section 7 of the Works
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	---				01/04/06	08:30	09:30
						04/04/06	08:30	09:30
						06/04/06	13:00	14:00
						08/04/06	13:00	14:00
						11/04/06	15:30	16:30
						12/04/06	08:30	09:30
						13/04/06	09:03	10:03
						18/04/06	09:35	10:35
						20/04/06	08:45	09:45
						22/04/06	09:48	10:48
						25/04/06	08:30	09:30
						27/04/06	08:35	09:35
						29/04/06	15:56	16:56
						AM3	Cheung Shue Tan Village (Near the outer building, temple)	---
04/04/06	13:00	14:00						
06/04/06	15:35	16:35						
08/04/06	14:15	15:15						
11/04/06	08:50	09:50						
12/04/06	14:50	15:50						
13/04/06	10:15	11:15						
18/04/06	10:50	11:50						
20/04/06	10:02	11:02						
22/04/06	11:12	12:12						
25/04/06	14:20	15:20						
27/04/06	13:02	14:02						
29/04/06	13:20	14:20						
AM5	Near Wen Chih Tang at the CUHK	---						
						04/04/06	14:20	15:20
						06/04/06	14:15	15:15
						08/04/06	15:31	16:31
						11/04/06	10:05	11:05
						12/04/06	10:00	11:00
						13/04/06	14:45	15:45
						18/04/06	16:30	17:30
						20/04/06	14:48	15:48
						22/04/06	13:06	14:06
						25/04/06	17:30	18:30
						27/04/06	14:30	15:30
						29/04/06	14:36	15:36
						AM1	HKIB Staff Accommodation	01/04/06
07/04/06	13:55	08/04/06	14:07					
13/04/06	08:30	14/04/06	08:39					
19/04/06	16:30	20/04/06	16:45					
25/04/06	16:30	26/04/06	16:36					
AM3A	Cheung Shue Tan (in front of Man Kee Store)	01/04/06	17:42	02/04/06	17:52	---		
		07/04/06	13:40	08/04/06	14:26			
		13/04/06	09:00	14/04/06	09:28			
		19/04/06	17:00	20/04/06	17:36			
		25/04/06	17:00	26/04/06	17:02			
AM5	Near Wen Chih Tang at the CUHK	01/04/06	16:28	02/04/06	16:49	---		
		07/04/06	13:14	08/04/06	13:37			
		13/04/06	11:00	14/04/06	12:00			
		19/04/06	16:40	20/04/06	17:01			
		25/04/06	16:40	26/04/06	16:59			



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	04/04/06	08:32	---	---	---	---	---	---
	11/04/06	15:35	---	---	---	---	---	---
	18/04/06	09:40	---	---	---	---	---	---
	25/04/06	08:40	---	---	---	---	---	---
NM2	04/04/06	15:05	---	---	---	---	---	---
	11/04/06	16:18	---	---	---	---	---	---
	18/04/06	17:40	---	---	---	---	---	---
	25/04/06	18:15	---	---	---	---	---	---
NM3	04/04/06	13:02	---	---	---	---	---	---
	11/04/06	08:55	---	---	---	---	---	---
	18/04/06	11:00	---	---	---	---	---	---
	25/04/06	14:30	---	---	---	---	---	---
NM8	04/04/06	14:22	---	---	---	---	---	---
	11/04/06	10:10	---	---	---	---	---	---
	18/04/06	16:40	---	---	---	---	---	---
	25/04/06	17:40	---	---	---	---	---	---

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 Pier 1 on 31 March 2006 had been submitted to the EPD at 14 April 2006 (Ref No.: J0402/03.09/06/7733) and shows in Appendix J.

During this reporting month, wastewater monitoring was carried out at Ma Liu Shui SA3 on 11 April 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

7.0 ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of environmental monitoring

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



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

The test report of wastewater sample collected at Ma Liu Shui Pier 1 on 31 March 2006 had been submitted to the EPD at 14 April 2006 (Ref No.: J0402/03.09/06/7733).

During this reporting month, wastewater monitoring was carried out at Ma Liu Shui SA3 on 11 April 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

7.2 Summary of Environmental Complaints

No environmental complaints were received in this monitoring month.

7.3 Summary of Notification of Summons and Prosecution

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

8.0 SITE INSPECTION

Weekly site inspections were carried out by the ET in this reporting month (01, 06, 13, 20 and 26 April 2006). Monthly joint site inspection at 26 April 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	Water	Follow up action to the finding of the previous month, silt curtain at Node 2 were still found damaged during weekly site inspections (01/04/06, 06/04/06, 13/04/06, 20/04/06 and 26/04/06).	LWKJV replied to repair the damaged part of the silt curtain immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
2	Chemical	Follow up action to the finding of the previous month, two oil containers were found without labels during weekly site inspections (01/04/06, 06/04/06 and 13/04/06).	LWKJV replied to add appropriate labels to the oil containers.	During the subsequent weekly site inspection (20/04/06), appropriate labels were found to be post on these oil containers. Hence, the finding was improved and no further action was required.
3	Air	Follow up action to the finding of the previous month, stockpiles of filling materials at Ma Liu Shui SA1 and SA3 were partly covered during weekly site inspections (01/04/06, 06/04/06, 13/04/06, 20/04/06 and 26/04/06).	LWKJV replied to provide water spraying to the stockpiles and cover them during the nighttime and holidays.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
4	Water	Underground water and site runoff was found direct discharged to the drainage channel without any treatment at Ma Liu Shui SA3 during weekly site inspections (01/04/06, 06/04/06, 13/04/06 and 20/04/06)	LWKJV replied to divert the underground water and site runoff to the sedimentation system before discharge.	During the subsequent weekly site inspection (26/04/06), site runoff at Ma Liu Shui SA3 was found discharged after treated at the sedimentation tank. Hence, the finding was improved and no further action was required.



Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
5	Water	Drainage channel at Node 1 was found to be blocked by mud and sand during weekly site inspections (01/04/06 and 06/04/06)	LWKJV replied to clean up the blocked channel immediately,	During the subsequent weekly site inspection (13/04/06), the blocked drainage channel had been clean up. Hence, the finding was improved and no further action was required.
6	Air	Haul road and unpaved area at SA14 was found to be dry during weekly site inspections (06/04/06 and 13/04/06). Dust was observed during the vehicle traveling and other construction activities.	LWKJV replied to provide regular water spraying on the haul road and unpaved area.	During the subsequent weekly site inspection (13/04/06), watering was observed at the haul road and unpaved area at SA14 and no dust was observed. Hence, the finding was improved and no further action was required.
7	Water	U-channel next to the stockpile at Node 1 was found blocked by sand and mud during weekly site inspections (20/04/06 and 26/04/06)	LWKJV replied to clean up the blocked U-channel immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
8	Water	Large amount of rainy water was found to be accumulated at Portion H, Node 3 and Ma Liu Shui during weekly site inspection (26/04/06).	LWKJV replied to drain the rainy water and treat before discharge.	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	Water	Site runoff was found to be accumulated in the drainage channel at Voided Aboutment during weekly site inspection (26/04/06)	LWKJV replied to clean up drainage channel, and drain the accumulated water and treat before discharge.	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.
10	Water	Wastewater from wheel washing was found accumulated near the SA1 site entrance during weekly site inspection (26/04/06).	LWKJV replied to divert the wastewater generated from wheel washing to sedimentation system before discharge.	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.
11	Site Practice	No EP was post at Voided Aboutment and SA1 site entrance during weekly site inspection (26/04/06).	LWKJV replied to post the valid EP at these areas immediately.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.

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>



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-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>
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><u>Group A</u> Two Paver, vibratory, hand-held (CNP170) Two Concrete lorry mixer (CNP044) One Excavator, tracked (CNP081)</p> <p><u>Group B</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081)</p> <p><u>Group C</u> One Asphalt Paver (CNP004) One Roller, Vibratory (CNP186) One Road Roller (CNP185) One Dump Truck (CNP067)</p> <p><u>Group D</u> 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.

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)	1540	Reused in the Contract	106365
	Broken Concrete (m ³)	40	N/A	865
	Reused in the Contract (m ³)	1500	N/A	105500
	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)	0.005	N/A	37.405
	Paper/Cardboard Packaging (1000kg)	0.060	N/A	0.306
	Plastics (1000kg)	0.003	N/A	0.033
	Chemical Waste (1000kg)	0.000	N/A	1.000
	Other, e.g. General Refuse (1000kg)	32.13	SENT	158.28

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.

The test report of wastewater sample collected at Ma Liu Shui Pier 1 on 31 March 2006 had been submitted to the EPD at 14 April 2006 (Ref No.: J0402/03.09/06/7733).

During this reporting month, wastewater monitoring was carried out at Ma Liu Shui SA3 on 11 April 2005. One wastewater sample was collected from the discharge point during the monitoring. Since the test result of suspended solids content of the wastewater sample was not received from the testing laboratory at the end of this reporting month, the details of the test result will be reported in the coming monthly report.

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

12.0 FUTURE KEY ISSUES

12.1 Upcoming EM&A Schedule in coming two months

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

Table 12.1 Upcoming EM&A Schedule in coming two months

Type of Monitoring	May 2006	June 2006
Noise Monitoring (Day-time)	02, 09, 16, 23, 30	06, 13, 20, 27
1-hour TSP	02, 04, 06, 09, 11, 13, 16, 18, 20, 23, 25, 27, 30	01, 03, 06, 08, 10, 13, 15, 17, 20, 22, 24, 27, 29
24-hour TSP	02, 04, 06, 09, 11, 13, 16, 18, 20, 23, 25, 27, 30	01, 03, 06, 08, 10, 13, 15, 17, 20, 22, 24, 27, 29
Site Inspection	02, 08, 13, 19, 25, 30	05, 10, 16, 22, 28

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 May and June 2006	<ul style="list-style-type: none">▪ Drainage Works (excavation, pipe lying and breaking) at Section 1 and 2 (Ma Liu Shui), 7 and 8 (Promenade) of the Works;▪ Backfilling, steel fixing and concreting of wall at Voided Abutment, pile cap 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;▪ Installation of precast concrete planter and parapet wall units at Section 5 and 6 of the Works;▪ Utility works at Section 5 of the Works;▪ Roadworks at Section 5 & 6 of the Works;▪ Water test of the watermain at Section 5 and 6 of the Works;▪ CCTV of the drainage at Section 5 and 6 of the Works;▪ Construction of concrete backing and shelter foundation at the proposed Public Landing Steps;▪ Construction of bus-bay at Section 10 of the Works;▪ Construction of in-situ Outfall 2 at the proposed Landscape Node P2 and construction of precast units Outfall 3 at the proposed Landscape Node P3;▪ Construction of parapet wall, kerb planter wall and feature wall at the Public Plaza at Section 7 of the Works; and▪ Soft landscaping works at Section 5 & 7 of the Works.



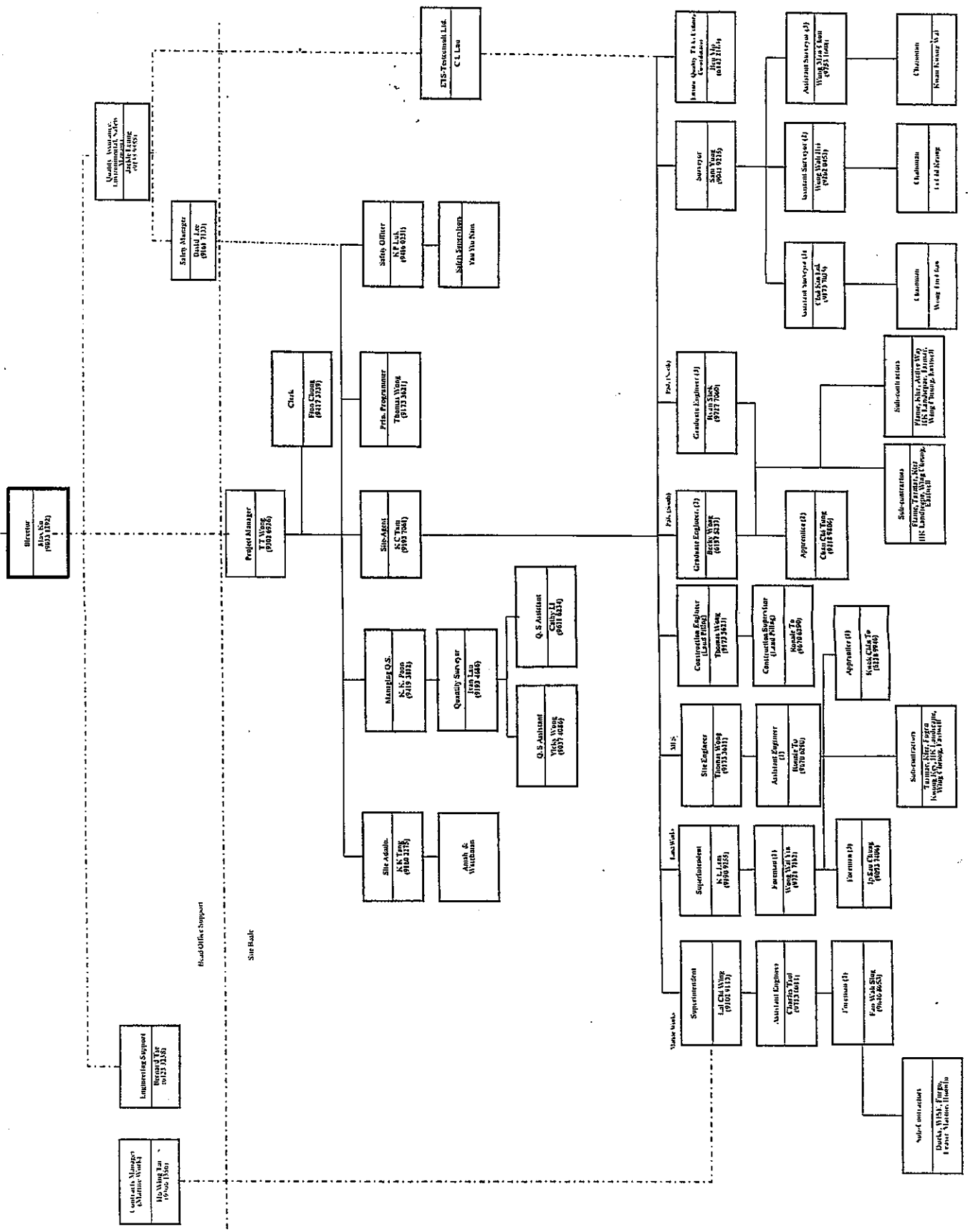
Appendix A

Organization Chart and Lines of Communication



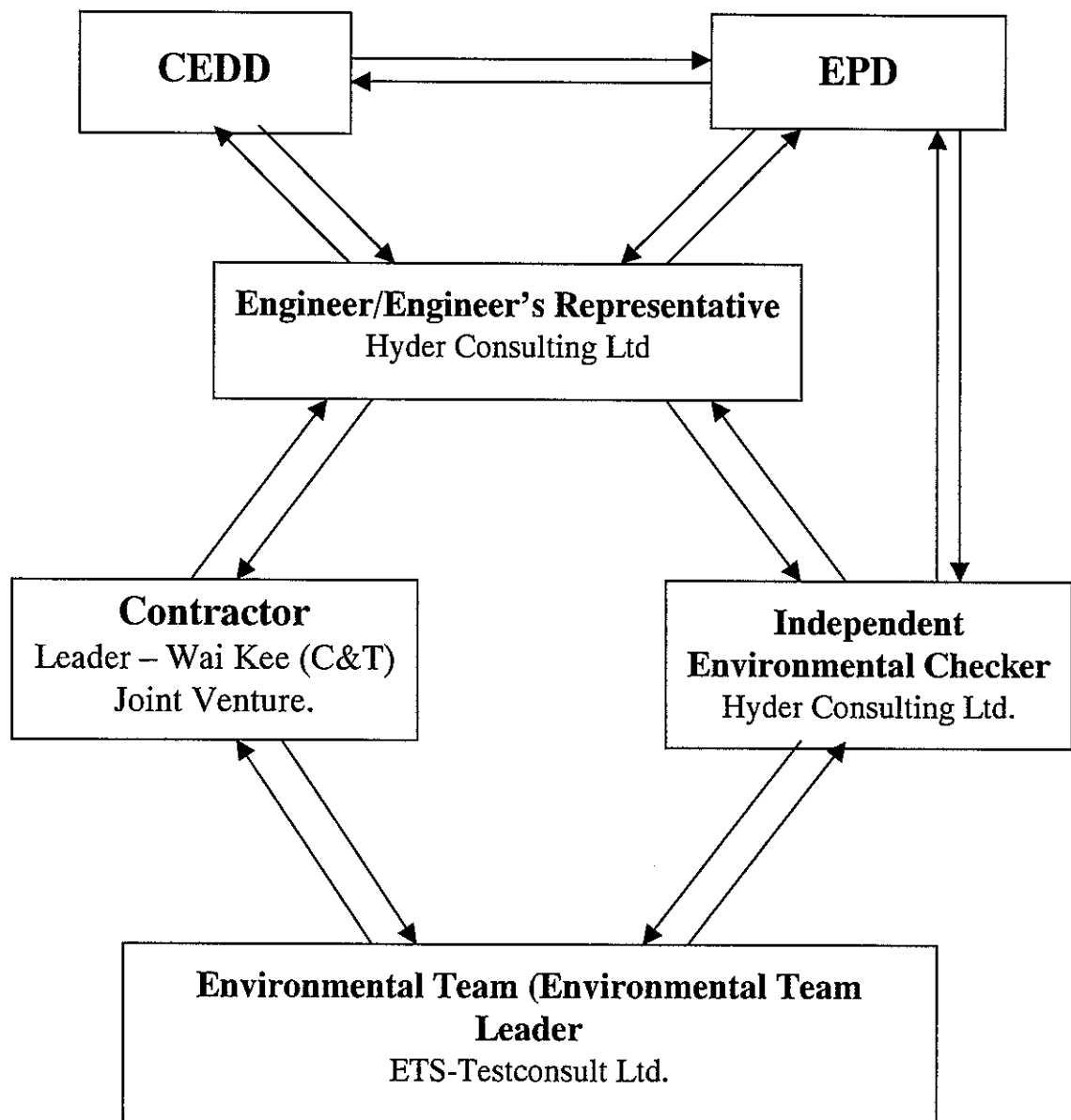
Board of Directors

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)



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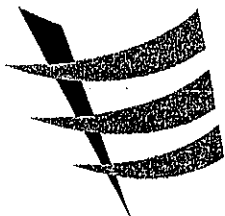
Lines of Communication





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

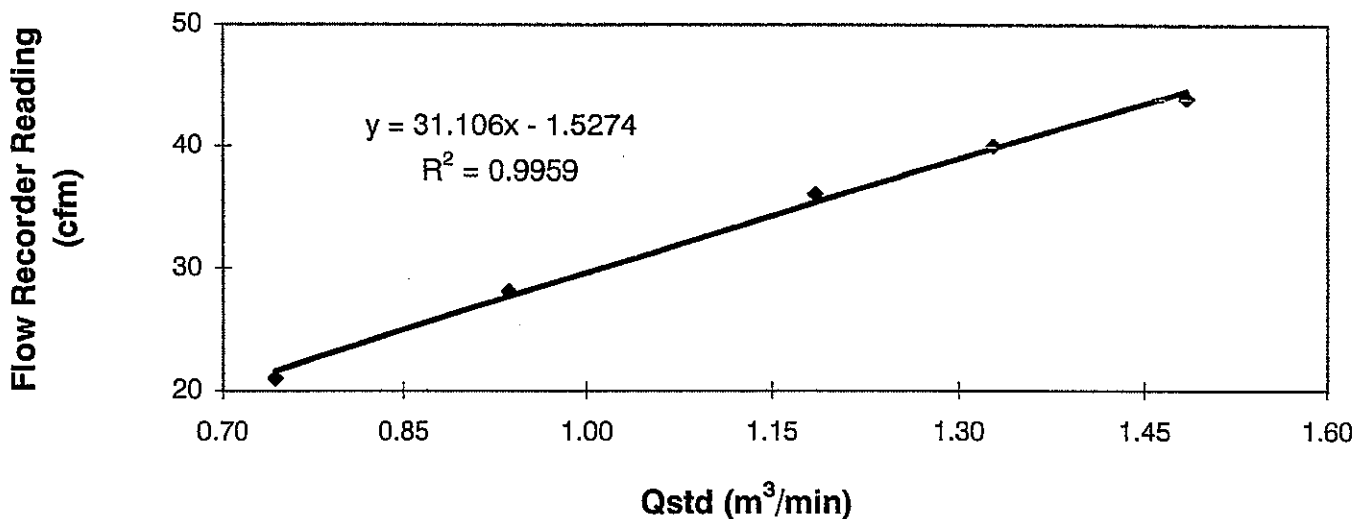
Calibration Report
of
High Volume Air Sampler

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
(Asst. Environmental Officer)

Approved by :
Linda Law
(Environmental Officer)



東業德勤測試顧問有限公司
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TEST REPORT

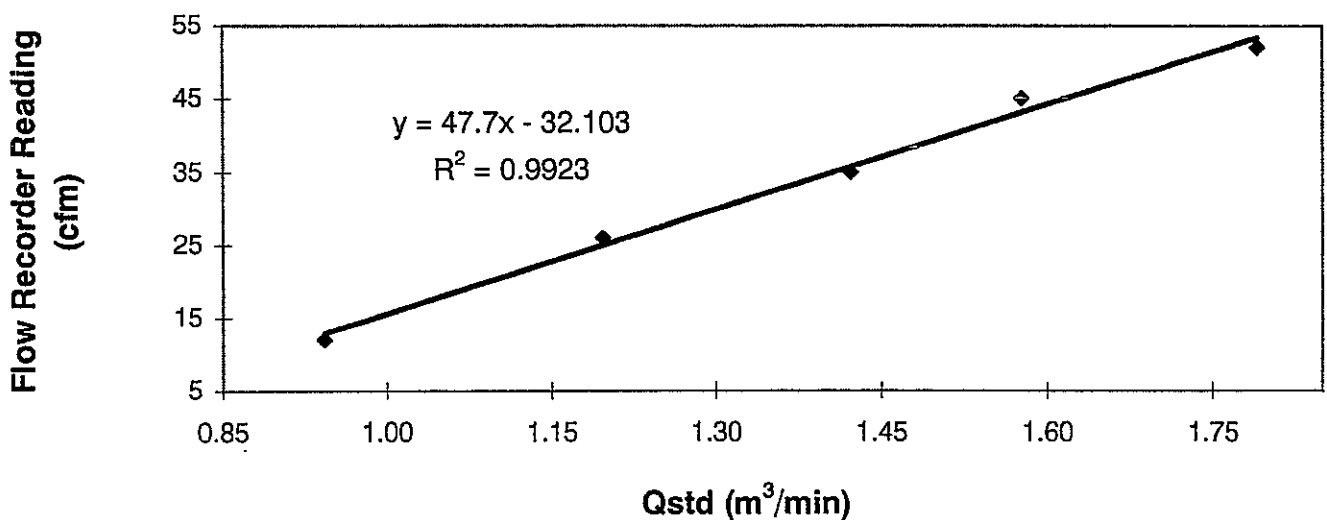
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 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
(Asst. Environmental Officer)

Approved by :
Linda Law
(Environmental Officer)



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TEST REPORT

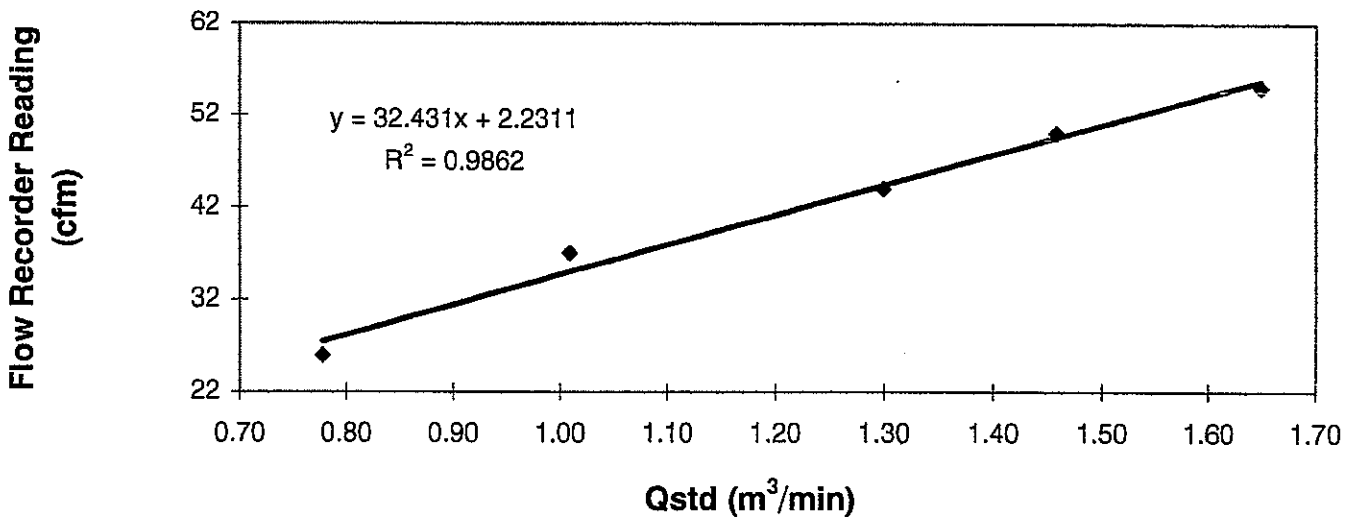
**Calibration Report
of
High Volume Air Sampler**

Manufacturer : Greasby GMW **Date of Calibration** : 15 March 2006
Serial No. : 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
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

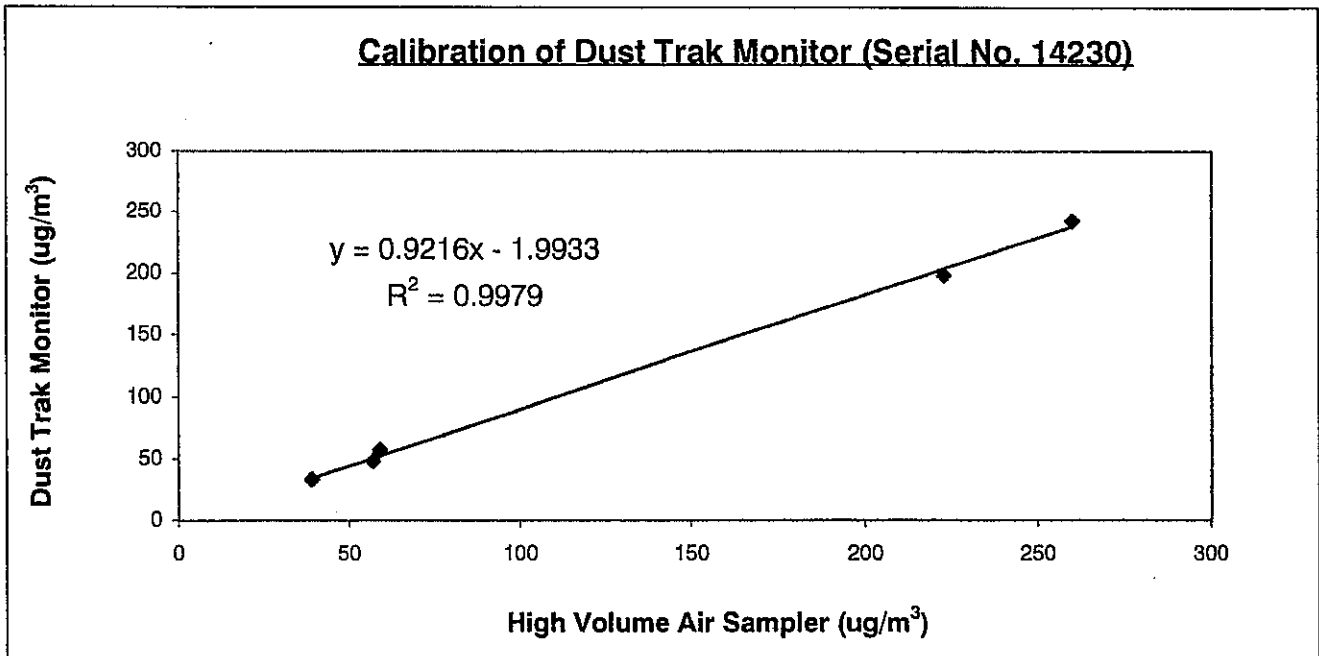
TEST REPORT

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		
01/04/06	08:40	02/04/06	08:25	9864.08	9887.83	23.75	1.34	1.34	1.34	2.8591	3.0565	103	Cloudy
07/04/06	13:55	08/04/06	14:07	9887.83	9912.03	24.20	1.34	1.34	1.34	2.8543	2.9745	62	Cloudy
13/04/06	08:30	14/04/06	08:39	9912.03	9936.18	24.15	1.59	1.59	1.59	2.8586	2.9557	42	Cloudy
19/04/06	16:30	20/04/06	16:45	9936.18	9960.43	24.25	1.50	1.50	1.50	2.8749	3.1215	113	Cloudy
25/04/06	16:30	26/04/06	16:36	9960.43	9984.53	24.10	1.50	1.50	1.50	2.8648	3.1280	121	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		
01/04/06	17:42	02/04/06	17:52	15222.07	15246.24	24.17	1.39	1.39	1.39	2.8638	3.0487	92	Cloudy
07/04/06	13:40	08/04/06	14:26	15246.24	15271.00	24.76	1.51	1.51	1.51	2.8928	2.9999	48	Cloudy
13/04/06	09:00	14/04/06	09:28	15271.00	15295.46	24.46	1.47	1.47	1.47	2.8622	2.1349	34	Cloudy
19/04/06	17:00	20/04/06	17:36	15295.48	15320.08	24.60	1.51	1.51	1.51	2.8634	3.0481	83	Cloudy
25/04/06	17:00	26/04/06	17:02	15320.08	15344.11	24.03	1.51	1.51	1.51	2.8695	3.0459	81	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		
01/04/06	16:28	02/04/06	16:49	5250.93	5275.28	24.35	0.95	0.95	0.95	2.8657	2.9929	92	Cloudy
07/04/06	13:14	08/04/06	13:37	5275.28	5299.67	24.39	0.98	0.98	0.98	2.8939	2.9594	46	Cloudy
13/04/06	11:00	14/04/06	12:00	5299.67	5323.78	24.11	1.07	1.07	1.07	2.8610	2.9193	38	Cloudy
19/04/06	16:40	20/04/06	17:01	5323.70	5348.05	24.35	1.10	1.10	1.10	2.8720	3.0429	106	Cloudy
25/04/06	16:40	26/04/06	16:59	5348.05	5372.11	24.06	1.10	1.10	1.10	2.8815	3.0258	91	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	
01/04/06	08:30	09:30	109	399	162	Cloudy
04/04/06	08:30	09:30	89	392	154	Cloudy
06/04/06	13:00	14:00	71	454	173	Sunny
08/04/06	13:00	14:00	106	392	161	Cloudy
11/04/06	15:30	16:30	92	380	142	Sunny
12/04/06	08:30	09:30	97	407	200	Cloudy
13/04/06	09:03	10:03	95	391	145	Cloudy
18/04/06	09:35	10:35	86	371	126	Cloudy
20/04/06	08:45	09:45	103	391	145	Sunny
22/04/06	09:48	10:48	90	372	128	Sunny
25/04/06	08:30	09:30	90	372	138	Cloudy
27/04/06	08:35	09:35	91	367	130	Rainy
29/04/06	15:56	16:56	102	406	162	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	
01/04/06	17:36	18:36	89	317	112	Cloudy
04/04/06	13:00	14:00	62	314	118	Cloudy
06/04/06	15:35	16:35	57	322	135	Sunny
08/04/06	14:15	15:15	89	341	112	Cloudy
11/04/06	08:50	09:50	76	327	109	Sunny
12/04/06	14:50	15:50	67	343	137	Cloudy
13/04/06	10:15	11:15	71	319	102	Cloudy
18/04/06	10:50	11:50	74	320	116	Cloudy
20/04/06	10:02	11:02	94	316	114	Sunny
22/04/06	11:12	12:12	92	325	130	Sunny
25/04/06	14:20	15:20	85	314	112	Cloudy
27/04/06	13:02	14:02	74	316	105	Rainy
29/04/06	13:20	14:20	79	362	112	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	
01/04/06	16:20	17:20	99	362	143	Cloudy
04/04/06	14:20	15:20	74	359	129	Cloudy
06/04/06	14:15	15:15	63	379	143	Sunny
08/04/06	15:31	16:31	98	369	140	Cloudy
11/04/06	10:05	11:05	83	362	129	Sunny
12/04/06	10:00	11:00	81	380	168	Cloudy
13/04/06	14:45	15:45	86	375	148	Cloudy
18/04/06	16:30	17:30	80	349	124	Cloudy
20/04/06	14:48	15:48	112	360	136	Sunny
22/04/06	13:06	14:06	112	355	131	Sunny
25/04/06	17:30	18:30	82	357	126	Cloudy
27/04/06	14:30	15:30	80	353	127	Rainy
29/04/06	14:36	15:36	92	391	143	Cloudy

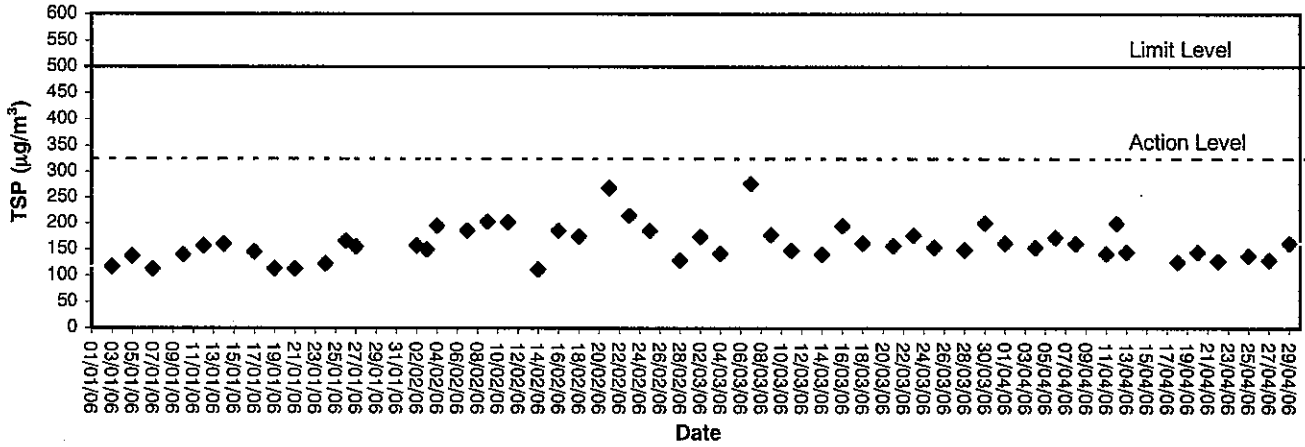


Appendix B3

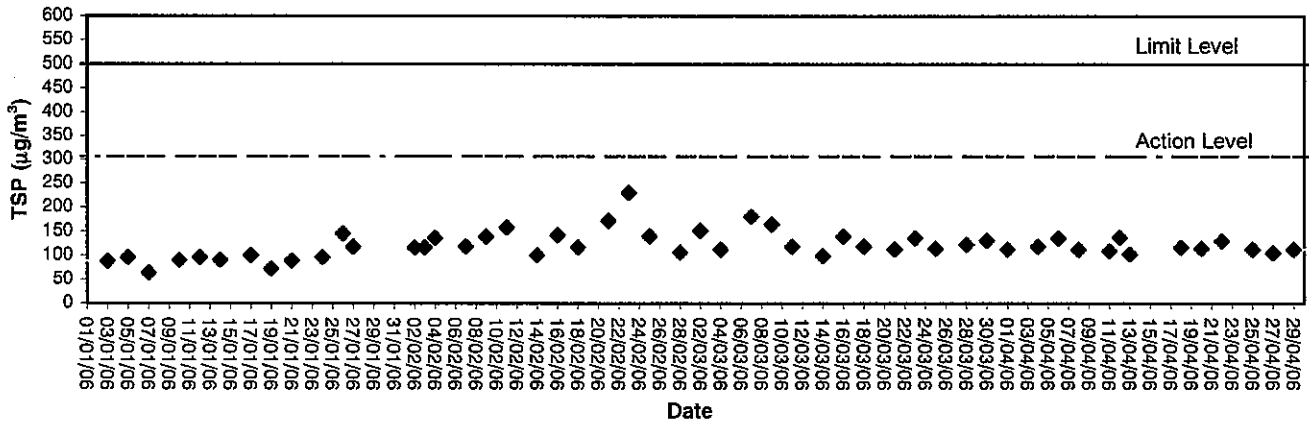
Graphical Plots of Air Quality Monitoring Data



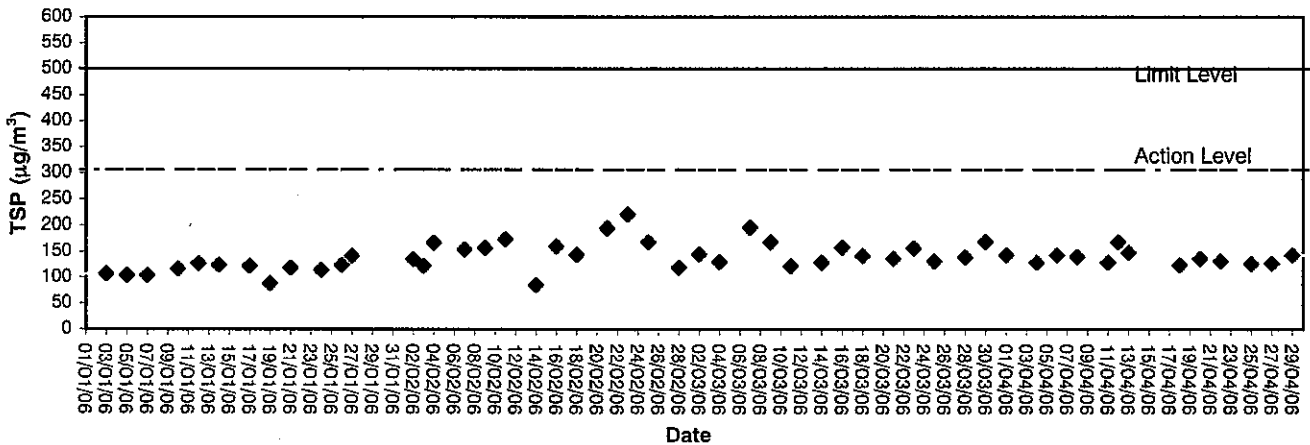
1-hour TSP level at AM1, HKIB Staff Accommodation



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

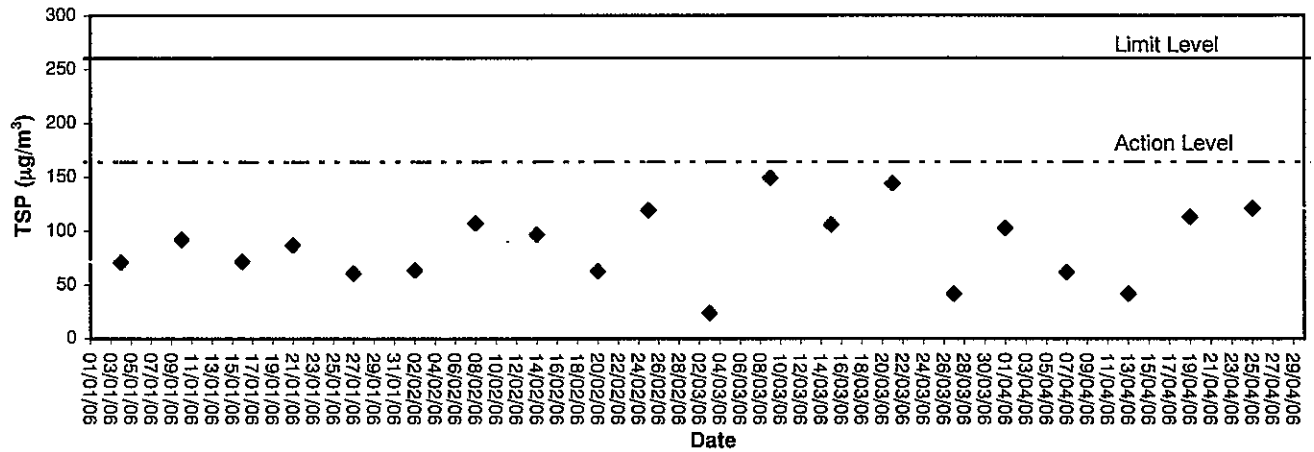


1-hour TSP level at AM5 Wen Chih Tang at the CUHK

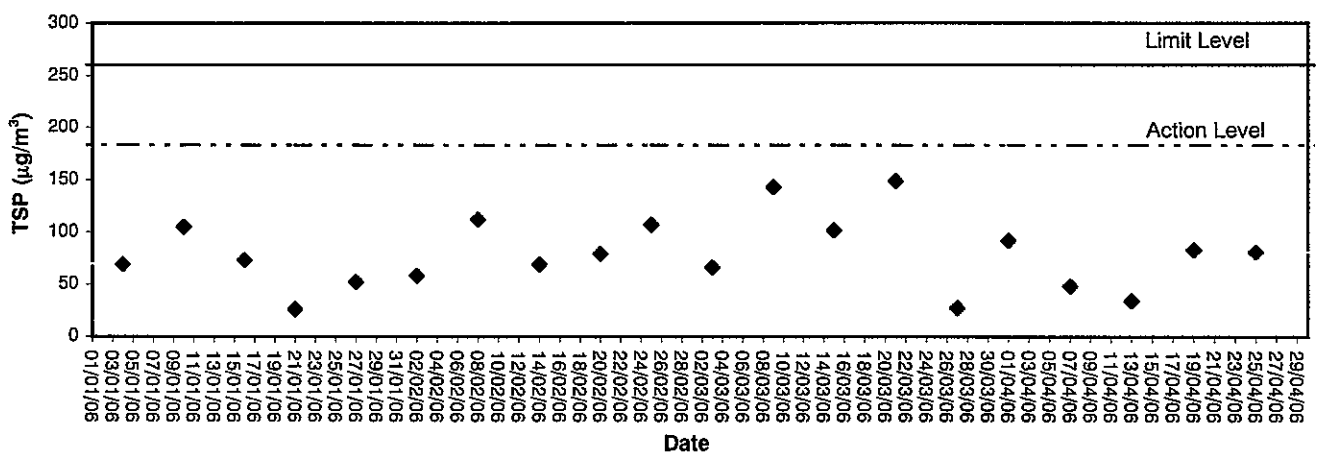




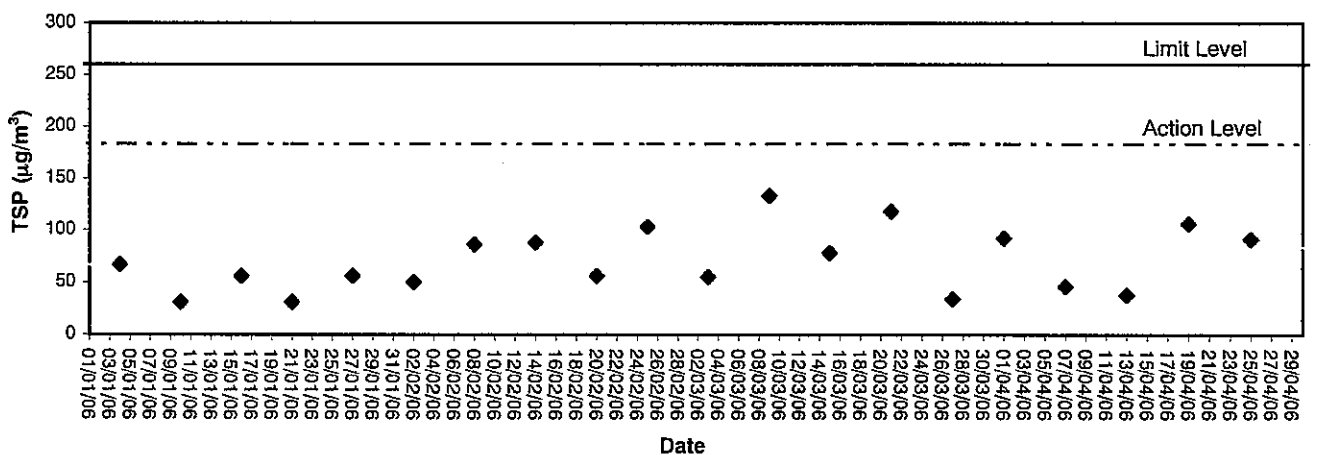
24-hour TSP level at AM1 (HKIB Staff Accommodation)



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)





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).

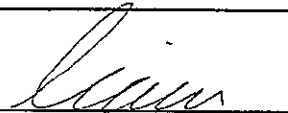
Test equipment used:

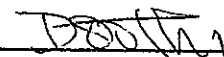
<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S017	Function Generator	C051022	21-Mar-07	HKGSCS
S024	Calibrator	S41431	22-May-06	PRC-NIM

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



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.

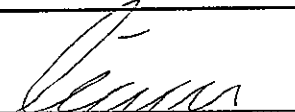
The results are shown in the attached page(s).

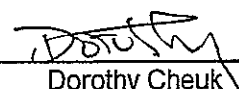
Test equipment used:

<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		
04/04/06	08:32	58.2	60.5	56.3	0.8	Cloudy
11/04/06	15:35	59.8	61.2	55.4	1.0	Sunny
18/04/06	09:40	60.7	63.3	57.5	1.0	Cloudy
25/04/06	08:40	60.9	63.9	57.2	1.4	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		
04/04/06	15:05	55.4	57.8	52.9	1.1	Cloudy
11/04/06	16:18	59.2	60.8	55.0	1.2	Sunny
18/04/06	17:40	60.3	63.0	57.0	1.0	Cloudy
25/04/06	18:15	60.3	62.9	57.2	1.1	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		
04/04/06	13:02	51.9	53.6	49.4	1.2	Cloudy
11/04/06	08:55	55.7	56.9	50.5	0.8	Sunny
18/04/06	11:00	55.8	58.8	52.5	0.8	Cloudy
25/04/06	14:30	57.4	60.7	54.7	1.0	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		
04/04/06	14:22	56.4	58.9	54.1	1.4	Cloudy
11/04/06	10:10	61.5	62.6	54.5	1.4	Sunny
18/04/06	16:40	60.6	63.1	56.7	1.3	Cloudy
25/04/06	17:40	60.6	63.3	57.8	1.5	Cloudy

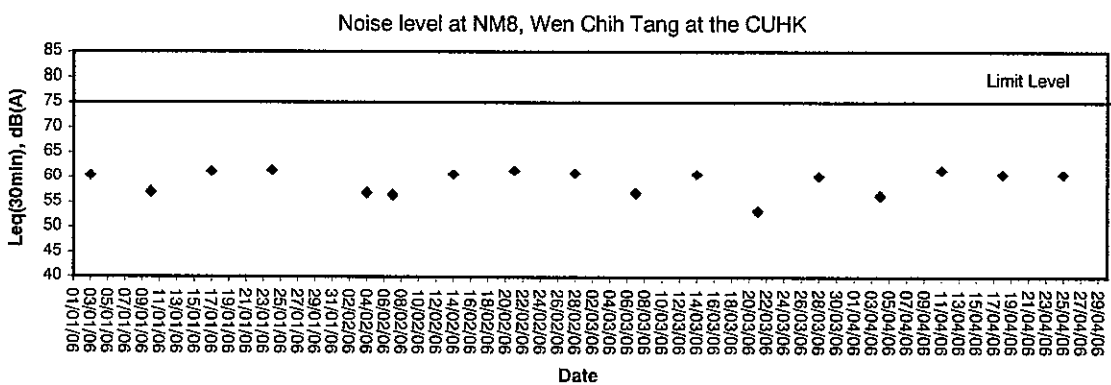
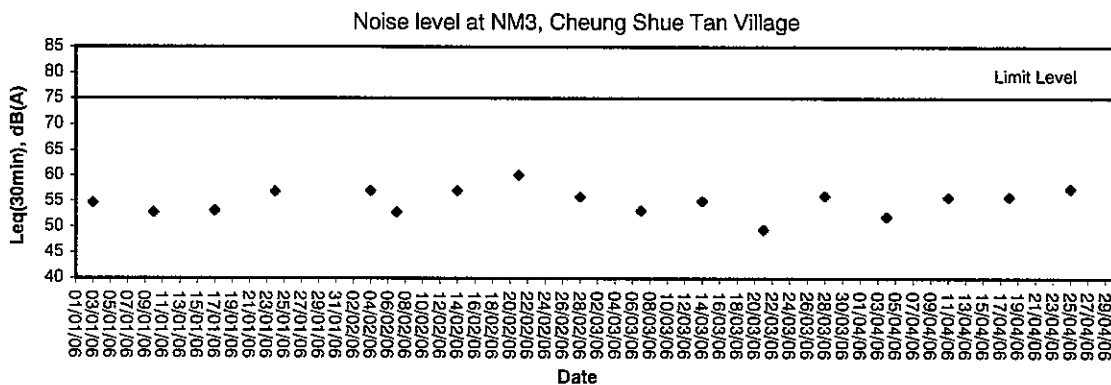
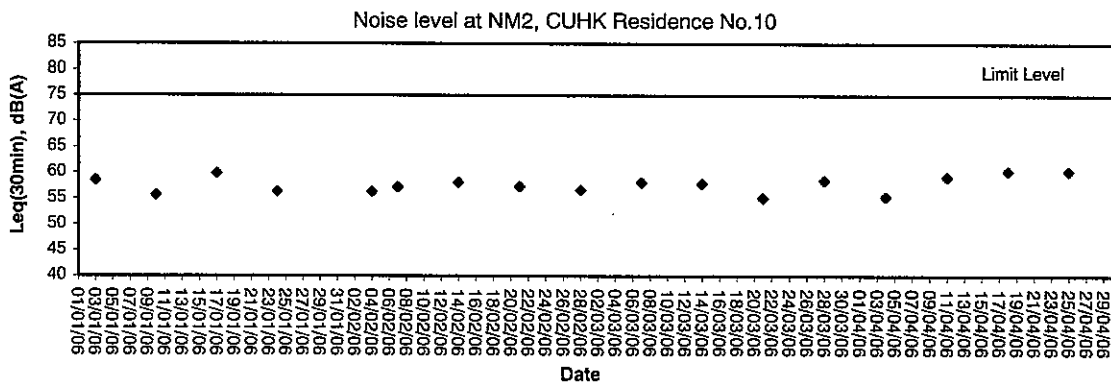
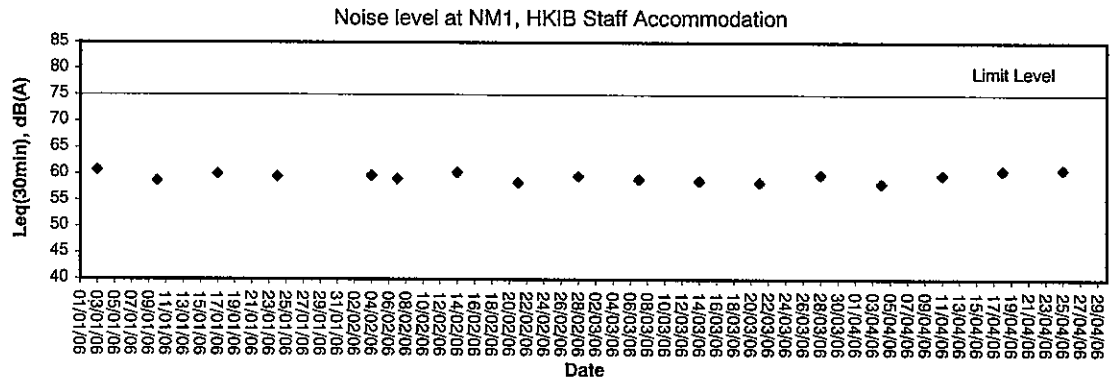


Appendix C3

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)
01/04/06	Trace	26.8	20.8	86	NE	<5
02/04/06	0.1	25.2	22.1	88	NW	<5
04/04/06	Trace	26.6	22.2	90	NE	<5
04/04/06	-	28.2	23.1	83	SW	<5
05/04/06	-	28.2	24.6	82	SW	<5
06/04/06	Trace	26.8	22.2	86	NE	<5
07/04/06	Trace	23.2	21.4	88	NE	<5
08/04/06	-	24.6	20.5	73	E	<5
09/04/06	Trace	25.7	22.2	89	NE	<5
10/04/06	Trace	28.6	25.6	83	SW	<5
11/04/06	Trace	29.6	26.5	80	SW	<5
12/04/06	Trace	29.9	26.6	77	S	<5
13/04/06	0.9	27.3	19.7	86	N	<5
14/04/06	0.1	20.4	18.6	87	N	<5
15/04/06	1.0	18.7	15.1	83	N	<5
16/04/06	Trace	18.8	15.7	80	N	<5
17/04/06	-	23.2	17.8	74	E	<5
18/04/06	-	25.6	20.7	81	E	<5
19/04/06	-	28.9	22.1	75	NE	<5
20/04/06	0.2	29.0	22.2	84	E	<5
21/04/06	-	25.8	21.7	84	E	<5
22/04/06	-	29.3	23.3	81	S	<5
23/04/06	-	30.1	25.6	82	S	<5
24/04/06	109.4	26.7	23.4	94	E	<5
25/04/06	Trace	25.0	22.8	91	E	<5
26/04/06	8.0	29.2	23.8	83	S	<5
27/04/06	11.9	28.4	25.3	86	S	<5
28/04/06	66.0	27.0	21.2	95	E	<5
29/04/06	1.6	24.4	20.9	91	E	<5
30/04/06	-	27.8	23.1	82	S	<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				CNOTRACTOR
	ET Leader	IC(E)	ER	ER	
<p>Action Level</p> <p>1. Exceedance of one sample</p> <p>2. Exceedance for two more consecutive samples</p>	<p>1. Identify source</p> <p>2. Inform IC(E) and ER</p> <p>3. Repeat measurement to confirm finding</p> <p>4. Increase monitoring frequency to daily</p> <p>1. Identify source</p> <p>2. Inform IC(E) and ER</p> <p>3. Repeat measurement to confirm findings</p> <p>4. Increase monitoring frequency to daily</p> <p>5. Discuss with IC(E) and Contractor on remedial actions required</p> <p>6. If exceedance continuous, arrange meeting with IC(E) and ER</p> <p>7. If exceedance stops, cease additional monitoring</p>	<p>1. Check monitoring data submitted by ET</p> <p>2. Check Contractor's working method.</p> <p>1. Checking monitoring data submitted by ET</p> <p>2. Check Contractor's working method</p> <p>3. Discuss with ET and Contractor on possible remedial measures</p> <p>4. Advise the ER on the effectiveness of the proposed remedial measures</p> <p>5. Supervisor implementation of remedial measures</p>	<p>1. Notify Contractor</p> <p>1. Confirm receipt of notification of failure in writing</p> <p>2. Notify Contractor</p> <p>3. Ensure remedial measures properly implemented</p>	<p>1. Rectify any unacceptable practice</p> <p>2. Amend working methods if possible</p> <p>1. Submit proposals for remedial action to IC(E) within 3 working days of notification</p> <p>2. Implement the agreed proposals</p> <p>3. Amend proposal if possible</p>	
<p>Limit Level</p> <p>1. Exceedance of one sample</p>	<p>1. Identify source</p> <p>2. Inform ER and EPD</p> <p>3. Repeat measurement to confirm finding</p> <p>4. Increase monitoring frequency to daily</p> <p>5. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results</p>	<p>1. Check monitoring data submitted by ET</p> <p>2. Check Contractor's working method.</p> <p>3. Discuss with ET and Contractor on possible remedial measures</p> <p>4. Advise the ER on the effectiveness of the proposal remedial measures</p> <p>5. Supervisor implementation of remedial measures</p>	<p>1. Confirm receipt of notification of failure in writing</p> <p>2. Notify Contractor</p> <p>3. Ensure remedial measures properly implemented</p>	<p>1. Take immediate action to avoid further exceedance</p> <p>2. Submit proposal for remedial actions to IC(E) within 3 working days of notification</p> <p>3. Implement the agreed proposals</p> <p>4. Amend proposal if appropriate</p>	
<p>2. Exceedance for two or more consecutive samples</p>	<p>1. Notify IC(E), ER, Contractor and EPD</p> <p>2. Identify source</p> <p>3. Repeat measurement to confirm findings</p> <p>4. Increase monitoring frequency to daily</p> <p>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</p> <p>6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken</p> <p>7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER to discuss the remedial action to taken</p> <p>8. If exceedance stops, cease additional monitoring</p>	<p>1. Discuss amongst ER, ET, and Contractor on potential remedial actions</p> <p>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly</p> <p>3. Supervise the implementation of remedial measures</p>	<p>1. Confirm receipt of notification of failure in writing</p> <p>2. Notify Contractor</p> <p>3. In consultation with the IC(E), agreed measures to be implemented</p> <p>4. Ensure remedial measures properly implemented</p> <p>5. If exceedance continues, consider what portion of this work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</p>	<p>1. Take immediate action to avoid further exceedance</p> <p>2. Submit proposals for remedial actions to IC(E) within 3 working days of notification</p> <p>3. Implement the agreed proposals</p> <p>4. Resubmit proposals if possible still not under control</p> <p>5. Stop the relevant portion of works as determined by the ER until the exceedance if abated.</p>	



Event / Action Plan for Construction Noise

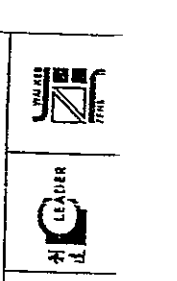
EVENT	ACTION			CNOTRACTOR
	ET Leader	IC(E)	ER	
Action Level	<ol style="list-style-type: none"> 1. Notify IC(E) and Contractor 2. Carry out investigation 3. Report the results of investigation to the IC(E) and Contractor 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring 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

Month	2008	2009
Day	JAN	FEB
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**Leader - Wal Keo (C&T) Joint Venture
TP37/03 - Revised Works Programme - RP04**

Task No.	Description	Start	Finish	Start	Finish	Early Start	Early Finish	Total Duration	Total Float	Percentage Complete
10JUN04 A										
20JUN04 A										

Task No.	Description	Start	Finish	Start	Finish	Early Start	Early Finish	Total Duration	Total Float	Percentage Complete
10JUN04 A										
20JUN04 A										

Task No.	Description	Start	Finish	Start	Finish	Early Start	Early Finish	Total Duration	Total Float	Percentage Complete
10JUN04 A										
20JUN04 A										

Task No.	Description	Start	Finish	Start	Finish	Early Start	Early Finish	Total Duration	Total Float	Percentage Complete
PC0100	Contract Award	100	10JUN04 A							
PC0200	Project Commencement Date	100	20JUN04 A							
PD0100	Zone ZA1, ZA2 & ZU2	0	20JUN04 A							
PD0200	Zone ZC,ZD,ZJ6,ZS1,ZU & ZU1	0	20JUN04 A							
PD0310	Part of Zone ZL1, ZM, ZJ, ZK, ZR, ZR1 & ZS	0	20JUN04 A							
PD0320	Remaining Zone ZJ	0	24SEP04 A							
PD0330	Remaining Zone ZR, ZR1 & ZS	0	27SEP04 A							
PD0340	Part of Zone ZL1	0	18MAR05 A							
PD0350	Remaining Zone ZL1	0	08SEP05 A							
PD0360	Zone ZG2 & ZJ2	0	18AUG04 A							
PD0370	Part of Zone ZY & ZK	0	18AUG04 A							
PD0380	Remaining Zone ZY	0	17SEP04 A							
PD0390	Remaining Zone ZK	0	10DEC04 A							
PD0400	Zone ZB & ZF	0	03SEP05 *							
PD0410	Part of Zone ZE	0	18JUN05 A							
PD0420	Remaining Zone ZE	0	28OCT05							
PD0500	Zone ZG & ZG3	0	28DEC07							
PD0600	Part of Zone ZG1	0	20JAN05 A							
PD0610	Zone ZU3	0	04OCT04 A							
PD0620	Remaining Zone ZG1	0	100 02APR05 A							
PD0700	Zone ZP	0	100 02NOV04 A							
PD0710	Part of Zone ZH	0	17SEP04 A							
PD0720	Part of Zone ZH	0	14MAR05 A							
PD0730	Part of Zone ZH	0	100 08MAR05 A							
PD0740	Remaining Zone ZH	0	27DEC07							
PD0750	Part of Zone ZH	0	100 20JUN05 A							
PD0800	Zone ZJ1	0	14MAR05 A							
PD0810	Part of Zone ZM	0	14MAR05 A							
PD0820	Remaining Zone ZM	0	15MAR05 A							
PD0830	Zone ZJ5	0	15APR05 A							
PD0840	Zone ZJ3 & ZJ4	0	08NOV04 A							
PD1000	Part of Zone ZL2	0	15MAR05 A							
PD1010	Remaining Zone ZL2	0	27DEC07							
PD1100	Zone ZQ & ZQ1	0	20JUL04 A							
PD1200	Zone ZT	0	10FEB00 *							
PD1210	Part of Zone ZT1	0	100 25JAN05 A							
PD1220	Remaining Zone ZT1	0	18FEB00 *							
PD1230	Zone ZT3	0	28AUG05 A							
PD1240	Zone ZT2	0	100 25JAN05 A							
PD1400	Demolish Existing Drainpipe in Zone ZY	0	21SEP05 *							

Task No.	Description	Start	Finish	Start	Finish	Early Start	Early Finish	Total Duration	Total Float	Percentage Complete
10JUN04 A										
200CT07										
28SEP05										
17OCT05										
1A										

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

CD	Section	41d	0	0	08JUN06	18JUL06*
CD0100	Section 1	0	41d	0	08JUN06	18JUL06*
CD0200	Section 2	0	1d	0	25DEC06	20DEC06*
CD0300	Section 3	0	24d	0	02DEC06	26DEC06*
CD0400	Section 4	0	36d	0	17NOV06	26DEC06*
CD0500	Section 5	0	-195d	0	10MAY06	24OCT06*
CD0600	Section 6	0	-156d	0	29DEC05	24JUL05*
CD0700	Section 7	0	-112d	0	13JUN06	21FEB06*
CD0800	Section 8	0	30d	0	09OCT06	09NOV06*
CD0900	Section 9	0	86d	0	23OCT06	28DEC06*
CD1000	Section 10	0	132d	0	18JUG06	28DEC06*
CD1100	Section 11	0	-159d	0	27JUL06	18FEB06*
CD1200	Section 12	0	20d	0	17OCT06	06NOV06*
CD1300	Section 13	0	102d	0	16SEP06	28DEC06*
CD1400	Section 14	0	-152d	0	21JUL07	18FEB07*
CD1500	Section 15	0	25d	0	12OCT07	06NOV07*
CD1600	Section 16	0	87d	0	20OCT07	20DEC07*

General Submissions	10	100	10JUN04 A	24JUN04 A	10JUN04 A	24JUN04 A
SUGS0100	10	100	10JUN04 A	24JUN04 A	10JUN04 A	24JUN04 A
SUGS0200	12	100	28JUN04 A	14JUL04 A	28JUN04 A	14JUL04 A
SUGS0300	24	100	10JUN04 A	12JUL04 A	10JUN04 A	12JUL04 A
SUGS0400	16	100	10JUN04 A	05JUL04 A	10JUN04 A	05JUL04 A
SUGS0500	18	100	28JUN04 A	02AUG04 A	28JUN04 A	02AUG04 A
SUGS0600	18	100	03AUG04 A	08SEP04 A	03AUG04 A	08SEP04 A
SUGS0700	14	100	10JUN04 A	08JUL04 A	10JUN04 A	08JUL04 A
SUGS0800	6	100	07JUL04 A	20AUG04 A	07JUL04 A	20AUG04 A
SUGS0900	18	100	28JUN04 A	12JUL04 A	28JUN04 A	12JUL04 A
SUGS1000	6	100	13JUL04 A	19AUG04 A	13JUL04 A	19AUG04 A
SUGS1100	12	100	28JUN04 A	12JUL04 A	28JUN04 A	12JUL04 A
SUGS1200	80	100	28JUN04 A	09SEP04 A	28JUN04 A	09SEP04 A
SUGS1300	7	100	10JUN04 A	16JUN04 A	10JUN04 A	16JUN04 A
SUGS1400	12	100	10JUN04 A	16JUN04 A	10JUN04 A	16JUN04 A
SUGS1500	50	100	27JAN05 A	10MAR05 A	10JUN04 A	28JAN05 A
SUGS1600	12	100	10JUN04 A	15JUN04 A	10JUN04 A	15JUN04 A
SUGS1700	50	100	02MAR05 A	10MAR05 A	02MAR05 A	10MAR05 A
SUGS1800	12	100	10JUN04 A	24JUN04 A	10JUN04 A	24JUN04 A
SUGS1900	6	100	25JUN04 A	12JUL04 A	25JUN04 A	12JUL04 A
SUGS2000	24	100	10JUN04 A	28JUL04 A	10JUN04 A	28JUL04 A
SUGS2100	16	100	28JUL04 A	30SEP04 A	28JUL04 A	30SEP04 A
SUGS2200	24	100	30SEP04 A	30SEP04 A	30SEP04 A	30SEP04 A
SUGS2300	64	100	10JUN04 A	28JUL04 A	10JUN04 A	28JUL04 A
SUGS2400	24	100	30JUL04 A	04FEB05 A	30JUL04 A	04FEB05 A

Material Submissions	10JUN04	20OCT07	28SEP04	17OCT05	2A
SLUMA0100	10JUN04	20OCT07	28SEP04	17OCT05	2A
SLUMA0200	10JUN04	20OCT07	28SEP04	17OCT05	2A

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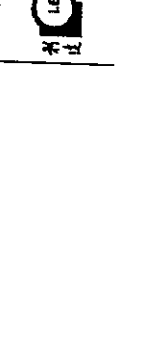
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- ◆ Section 13

Drafted Safety Plan
 Safety Plan
 Sub-Contractor Management Plan (SCMP)
 Draft Waste Management Plan (WMP)
 Waste Management Plan
 Engineer Approval of WMP
 Layout Plan & Location of Site Office
 Engineer Approval of Site Layout Plan
 Project Signboard Location & Details
 Engineer Approval of Project Signboard Details
 EM&A and EMIS with Baseline Monitoring Record
 Engineer & EPD Consent of EM&A and EMIS
 Initial Works Programme
 Engineer Approval of Initial Works Programme
 Detailed Works Programme
 First Three Month Rolling Programme
 Executive Summary Programme
 Particulars of Environmental Team Leader
 EPD & Engineer Approval of ET Leader
 Overall TTA Scheme & Traffic Management Design
 Comments on Overall TTA Scheme & TMD
 Revised Overall TTA Scheme & TMD

Particulars of DI Pipes & Filings
 Engineer Approval of DI Pipes & Filings

Particulars of DI Pipes & Filings
 Engineer Approval of DI Pipes & Filings

Particulars of DI Pipes & Filings
 Engineer Approval of DI Pipes & Filings





ID	Description	Qty	Total	Percent	Early	Early	Finish	Early	Finish	Start	Finish
		Dur	Flat	Complete	Start	Start	Start	Start	Start	Start	Start
SUA1000	Particulars of Concrete Design Mix	16	100	100%	10JUN04	24JUN04	10JUN04	24JUN04	10JUN04	24JUN04	24JUN04
SSUA0100	Engineer Approval of Concrete Design Mix	23	100	100%	08NOV04	08NOV04	26JUN04	08NOV04	08NOV04	08NOV04	08NOV04
SUA10500	Particulars of Precast Concrete Pipe	12	100	100%	10JUN04	24JUN04	10JUN04	24JUN04	10JUN04	24JUN04	24JUN04
SUA10600	Engineer Approval of Precast Concrete Pipe	12	100	100%	08NOV04	08NOV04	25JUN04	08NOV04	08NOV04	08NOV04	08NOV04
SUA10700	Glazed Skylight Roof Cover System Details	50	66	90%	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
SUA10800	Engineer Approval of Roof Cover System	72	66	90%	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
SUA10900	Sample Panels	60	100	100%	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
SUA11000	Engineer Approval of Sample Panels	72	66	90%	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
Method Statement Submissions											
SUME100	Treatment Work Before Discharge of Effluent	24	100	100%	10JUN04	24JUN04	10JUN04	24JUN04	10JUN04	24JUN04	24JUN04
SUME200	Engineer Approval of Treatment Work	18	100	100%	27NOV04	27NOV04	25JUN04	27NOV04	25JUN04	27NOV04	27NOV04
SUME300	Drainage Works	18	100	100%	17JUL04	08AUG04	17JUL04	08AUG04	17JUL04	08AUG04	08AUG04
SUME400	Engineer Approval of Drainage Works	12	100	100%	07AUG04	31AUG04	07AUG04	31AUG04	07AUG04	31AUG04	31AUG04
SUME500	Tree Transplant	24	100	100%	02JUL04	30JUL04	02JUL04	30JUL04	02JUL04	30JUL04	30JUL04
SUME600	Engineer Approval of Tree Transplant	18	100	100%	31JUL04	19AUG04	31JUL04	19AUG04	31JUL04	19AUG04	19AUG04
SUME700	Pre-drilling	18	100	100%	10JUL04	30JUL04	10JUL04	30JUL04	10JUL04	30JUL04	30JUL04
SUME800	Engineer Approval of Pre-drilling	12	100	100%	31JUL04	25AUG04	31JUL04	25AUG04	31JUL04	25AUG04	25AUG04
SUME900	MLS Bridge Piling Works	18	100	100%	18AUG04	20SEP04	18AUG04	20SEP04	18AUG04	20SEP04	20SEP04
SUME1000	Engineer Approval of MLS Bridge Piling Works	12	100	100%	21SEP04	28FEB05	21SEP04	28FEB05	21SEP04	28FEB05	28FEB05
SUME1100	MLS Bridge Construction	48	100	100%	19NOV04	25NOV04	19NOV04	25NOV04	19NOV04	25NOV04	25NOV04
SUME1200	Engineer Approval of MLS Bridge Construction	12	100	100%	28NOV04	04AUG05	28NOV04	04AUG05	28NOV04	04AUG05	04AUG05
SUME1300	Construction of Public Toilet No.2	18	100	100%	02JUL05	07JUL05	02JUL05	07JUL05	02JUL05	07JUL05	07JUL05
SUME1400	Engineer Approval of Public Toilet No.2	12	36	60%	08JUL05	28SEP05	08JUL05	28SEP05	08JUL05	28SEP05	28SEP05
SUME1500	Construction of Ma Liu Shui Subway	48	100	100%	03JUN05	03JUL05	03JUN05	03JUL05	03JUN05	03JUL05	03JUL05
SUME1600	Engineer Approval of MLS Subway	12	100	100%	06JUL05	28SEP05	06JUL05	28SEP05	06JUL05	28SEP05	28SEP05
SUME1700	Retaining Wall No. 1	24	100	100%	21JUL05	01AUG05	21JUL05	01AUG05	21JUL05	01AUG05	01AUG05
SUME1800	Engineer Approval for Retaining Wall No. 1	12	86	90%	02AUG05	28SEP05	02AUG05	28SEP05	02AUG05	28SEP05	28SEP05
SUME1900	Construction of Public Landing Step	60	100	100%	10JUN04	12JUL04	10JUN04	12JUL04	10JUN04	12JUL04	12JUL04
SUME2000	Engineer Approval of Public Landing Step	12	100	100%	13JUL04	30JUL04	13JUL04	30JUL04	13JUL04	30JUL04	30JUL04
SUME2100	Construction of Landscape Node P1, P2 & P3	60	100	100%	05AUG04	19AUG04	05AUG04	19AUG04	05AUG04	19AUG04	19AUG04
SUME2200	Engineer Approval of Construction for P1-3	12	100	100%	20AUG04	24AUG04	20AUG04	24AUG04	20AUG04	24AUG04	24AUG04
Alternative Design Submission											
SUA5A90100	Submit & Approve Preliminary Design	36	100	100%	18AUG04	26SEP04	18AUG04	26SEP04	18AUG04	26SEP04	26SEP04
SUA5A90200	Submit Preliminary Design to ACABAS	3	100	100%	30SEP04	04OCT04	30SEP04	04OCT04	30SEP04	04OCT04	04OCT04
SUA5A90300	ACABAS Approval	1	100	100%	19OCT04	19OCT04	19OCT04	19OCT04	19OCT04	19OCT04	19OCT04
SUA5A90400	Detail Design	50	100	100%	20OCT04	20JAN05	20OCT04	20JAN05	20OCT04	20JAN05	20JAN05
SUA5A90500	Check by ICE	28	100	100%	22DEC04	28JUN05	22DEC04	28JUN05	22DEC04	28JUN05	28JUN05
SUA5A90600	Submit Detail Design to the Engineer	0	100	100%	23DEC04	23DEC04	23DEC04	23DEC04	23DEC04	23DEC04	23DEC04
SUA5A90700	Engineer Approval of Details Design	29	100	100%	23DEC04	28JUL05	23DEC04	28JUL05	23DEC04	28JUL05	28JUL05
SUA5A90800	Comment / Agreement from HyD Structure	23	100	100%	31DEC04	18JUL05	31DEC04	18JUL05	31DEC04	18JUL05	18JUL05
SUA5A90900	Comment / Agreement from HyD Maintenance	11	100	100%	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04
SUA5A91000	Comment / Agreement from GEO	17	100	100%	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04
SUA5A91100	Comment / Agreement from DLO, OSD, TD	11	100	100%	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04	31DEC04
SUA5A91200	Engineer Approval of A.D. Founding Level	12	100	100%	21APR05	21APR05	21APR05	21APR05	21APR05	21APR05	21APR05

Method Statement Submissions

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

Primerica Systems, Inc.

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

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
SUA5S1000	CEDD Approval of A.D.	29	100	31DEC04	26JUL05	3	100	31DEC04	26JUL05
SUA5S1001	Submit & Approve Preliminary Design	38	100	18AUG04	26SEP04	1	100	18AUG04	26SEP04
SUA5S1002	Submit Preliminary Design to ACABAS	3	100	30SEP04	04OCT04	1	100	30SEP04	04OCT04
SUA5S1003	ACABAS Approval	1	100	19OCT04	19OCT04	1	100	19OCT04	19OCT04
SUA5S1004	Aesthetic Review	59	100	20OCT04	12JAN05	0	100	20OCT04	12JAN05
SUA5S1005	ACABAS Submission (Landscape)	0	100	18MAY05	20MAY05	0	100	18MAY05	20MAY05
SUA5S1006	Detail Design	101	100	27MAY05	27MAY05	0	100	27MAY05	27MAY05
SUA5S1007	Submit Detail Design to the Engineer	0	100	28MAY05	28MAY05	0	100	28MAY05	28MAY05
SUA5S1008	Engineer Approval	24	100	26JUL05	26JUL05	0	100	26JUL05	26JUL05
SUA5S1009	CEDD Approval of A.D.	30	100	26JUL05	26JUL05	0	100	26JUL05	26JUL05

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
PRCS0100	Mobilization	12	100	26JUN04	10JUL04	1	100	26JUN04	10JUL04
PRCS0200	Erect Contractor Site Office	28	100	12JUL04	31JUL04	1	100	12JUL04	31JUL04
PRPR0300	Arrange ULG Meeting	80	100	26JUN04	18JUL04	1	100	26JUN04	18JUL04
PRPR0400	Arrange TM/G Meeting	48	100	26JUN04	23JUL04	1	100	26JUN04	23JUL04
PRPR0500	Tree Survey	6	100	26JUN04	08AUG04	1	100	26JUN04	08AUG04
PRPR0600	Engineer Approval of Tree Survey	12	100	07AUG04	07AUG04	1	100	07AUG04	07AUG04
PRPR0700	Tree Transplant	24	100	31AUG04	31AUG04	1	100	31AUG04	31AUG04
PRPR0800	Tree Felling	12	100	30AUG04	30AUG04	1	100	30AUG04	30AUG04
PRPR0900	Procure Third Party Insurance	12	100	10JUN04	10JUN04	1	100	10JUN04	26JUN04
PRPR1000	Erect Project Sign Board	18	100	20AUG04	12MAY05	1	100	20AUG04	12MAY05
PRPR1100	1st Site Safety & Environmental Committee Meeting	24	100	29JUN04	20JUL04	1	100	29JUN04	20JUL04
PRPR1200	1st SSEMC Meeting	24	100	28JUN04	27JUL04	1	100	28JUN04	27JUL04
PRPR1300	Propose Location of Temporary Landing Facilities	24	100	10JUN04	27JUL04	1	100	10JUN04	27JUL04
PRPR1400	Engineer Approval the Temp Landing Location	12	100	17AUG04	17AUG04	1	100	17AUG04	17AUG04
PRPR1500	Provide Temp Landing Facilities	15	100	18AUG04	18AUG04	1	100	18AUG04	18AUG04
PRPR1600	Engineer Revise Dredging Plan to EPD	1	100	08SEP04	08SEP04	1	100	08SEP04	08SEP04
PRPR1700	Apply Dumping Permit	18	100	10JUN04	08JUL04	1	100	10JUN04	08JUL04
PRPR1800	Approval of Dumping Permit	42	100	08JUL04	18MAY05	1	100	08JUL04	18MAY05
PRPR1900	Propose Accurate Position Control at Disposal	0	100	26OCT04	26OCT04	1	100	26OCT04	26OCT04
PRPR2000	Engineer Approval of Proposal	12	100	26OCT04	26OCT04	1	100	26OCT04	26OCT04
PRPR2100	Provide W/MF Quality Monitoring Equipment	21	100	10JUN04	11OCT04	1	100	10JUN04	11OCT04
PRPR2200	Initial Bounding Plan	12	100	13SEP04	13SEP04	1	100	13SEP04	13SEP04
PRPR2300	Ordering of Precast Concrete Pipes	700	100	10JUL04	10JUL04	1	100	10JUL04	10JUL04
PRPR2400	Ordering of DI Pipes and Fittings	1	100	05FEB05	05FEB05	1	100	05FEB05	05FEB05
PRPR2500	Concrete Trial Mix	0	100	13JUL04	22JUL04	1	100	13JUL04	22JUL04
PRPR2600	Manufacture & Delivery of Seawall Blocks	220	-87d	7d	13DEC04	15DEC05	20AUG05	13DEC04	20AUG05

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
MS550100	Complete Laying of Utilities	0	-156d	0	06JUN06	1	100	06JUN06	31JUL06*

Submit & Approve Preliminary Design
 Submit Preliminary Design to ACABAS
 ACABAS Approval
 Aesthetic Review
 ACABAS Submission (Landscape)
 Detail Design
 Submit Detail Design to the Engineer
 Engineer Approval
 ICEDD Approval of A.D.
 Mobilization
 Erect Contractor Site Office
 Arrange ULG Meeting
 Arrange TM/G Meeting
 Tree Survey
 Engineer Approval of Tree Survey
 Tree Transplant
 Tree Felling
 Procure Third Party Insurance
 Erect Project Sign Board
 1st Site Safety & Environmental Committee Meeting
 1st SSEMC Meeting
 Propose Location of Temporary Landing Facilities
 Engineer Approval the Temp Landing Location
 Provide Temp Landing Facilities
 Apply Dumping Permit
 Engineer Revise Dredging Plan to EPD
 Approval of Dumping Permit
 Propose Accurate Position Control at Disposal
 Engineer Approval of Proposal
 Provide W/MF Quality Monitoring Equipment
 Initial Bounding Plan
 Ordering of Precast Concrete Pipes
 Concrete Trial Mix
 Ordering DI Pipes and Fittings
 Manufacture & Delivery of Seawall Blocks
 Complete Laying of Utilities

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1AMPK0100	Construct Dwarf Wall (South Section)	23	72d	0	20FEB06	17MAR06	17MAR06	17MAY06	13JUN06
A1AMPK0200	Construct Dwarf Wall (North Section)	21	67d	0	07MAR06	30MAR06	30MAR06	28MAY06	20JUN06
A1AMPK0300	Construct Edging Beam (South Section)	22	56d	0	23JAN06	18FEB06	03APR06	28APR06	28APR06
A1AMPK0400	Construct Edging Beam (North Section)	18	34d	0	14FEB06	06MAR06	25MAR06	16APR06	16APR06
A1AMPK0500	Lighting Drawpit & Cable Duct (South Section)	10	75d	0	20FEB06	02MAR06	28MAY06	01JUN06	01JUN06
A1AMPK0600	Lighting Drawpit & Cable Duct (North Section)	10	48d	0	07MAR06	17MAR06	04MAY06	15MAY06	15MAY06

Remove Ex St Surcharge Mound

Decide Exact Location of Manholes & Catchpits

S088 - Existing Box Culvert

S081 - Existing Box Culvert

S080 - Existing Box Culvert

S087 - S086

CLP - 11kV Cable (South Section)

CLP - 11kV Cable (North Section)

CATV - 2 ways Cable TV Duct (South Sect-n)

CATV - 2 ways Cable TV Duct (North Section)

CATV - Cable Connection

Watermain - 250 & 300 Dia (South Section)

Watermain - 250 Dia (North Section)

Watermain - Testing and Connection of 300 Dia

Watermain - Testing and Connection of 250 Dia

Install Public Lighting Post

Construct Dwarf Wall (South Section)

Construct Dwarf Wall (North Section)

Lay Kerb (South Section)

Lay Kerb (North Section)

Lighting Drawpit & Cable Duct (South Section)

Lighting Drawpit & Cable Duct (North Section)

Trim Formation & Lay Subbase (South Section)

Trim Formation & Lay Subbase (North Section)

Lay Cycle Track Pavement (South Section)

Lay Cycle Track Pavement (North Section)

Apply Road Marking

Erect Signage

Install Railing, Fencing & etc

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1GTRM0100	Remove Ex Surcharge Mound	18	7d	0	30SEP05	22OCT05	10OCT05	10OCT05	31OCT05
A1GTRM0200	Decide Exact Location of Manholes & Catchpits	1	17d	0	30SEP05	30SEP05	22OCT05	22OCT05	22OCT05
A1GTRM0300	S088 - Existing Box Culvert	42	32d	0	12OCT05	28NOV05	18NOV05	07JAN06	07JAN06
A1GTRM0400	S081 - Existing Box Culvert	42	7d	0	24OCT05	10DEC05	01NOV05	19DEC05	19DEC05
A1GTRM0500	S080 - Existing Box Culvert	41	5d	0	18DEC05	04FEB06	22DEC05	11FEB06	11FEB06
A1GTRM0600	S087 - S086	18	32d	0	30NOV05	20DEC05	08JAN06	28JAN06	28JAN06

CLP - 11kV Cable (South Section)

CLP - 11kV Cable (North Section)

CATV - 2 ways Cable TV Duct (South Section)

CATV - 2 ways Cable TV Duct (North Section)

CATV - Cable Connection

Watermain - 250 & 300 Dia (South Section)

Watermain - 250 Dia (North Section)

Watermain - Testing and Connection of 300 Dia

Watermain - Testing and Connection of 250 Dia

Install Public Lighting Post

Construct Dwarf Wall (South Section)

Construct Dwarf Wall (North Section)

Lay Kerb (South Section)

Lay Kerb (North Section)

Lighting Drawpit & Cable Duct (South Section)

Lighting Drawpit & Cable Duct (North Section)

Trim Formation & Lay Subbase (South Section)

Trim Formation & Lay Subbase (North Section)

Lay Cycle Track Pavement (South Section)

Lay Cycle Track Pavement (North Section)

Apply Road Marking

Erect Signage

Install Railing, Fencing & etc

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1GTRM0700	Remove Ex Surcharge Mound	18	7d	0	30SEP05	22OCT05	10OCT05	10OCT05	31OCT05
A1GTRM0800	Decide Exact Location of Manholes & Catchpits	1	17d	0	30SEP05	30SEP05	22OCT05	22OCT05	22OCT05
A1GTRM0900	S088 - Existing Box Culvert	42	32d	0	12OCT05	28NOV05	18NOV05	07JAN06	07JAN06
A1GTRM1000	S081 - Existing Box Culvert	42	7d	0	24OCT05	10DEC05	01NOV05	19DEC05	19DEC05
A1GTRM1100	S080 - Existing Box Culvert	41	5d	0	18DEC05	04FEB06	22DEC05	11FEB06	11FEB06
A1GTRM1200	S087 - S086	18	32d	0	30NOV05	20DEC05	08JAN06	28JAN06	28JAN06

CLP - 11kV Cable (South Section)

CLP - 11kV Cable (North Section)

CATV - 2 ways Cable TV Duct (South Section)

CATV - 2 ways Cable TV Duct (North Section)

CATV - Cable Connection

Watermain - 250 & 300 Dia (South Section)

Watermain - 250 Dia (North Section)

Watermain - Testing and Connection of 300 Dia

Watermain - Testing and Connection of 250 Dia

Install Public Lighting Post

Construct Dwarf Wall (South Section)

Construct Dwarf Wall (North Section)

Lay Kerb (South Section)

Lay Kerb (North Section)

Lighting Drawpit & Cable Duct (South Section)

Lighting Drawpit & Cable Duct (North Section)

Trim Formation & Lay Subbase (South Section)

Trim Formation & Lay Subbase (North Section)

Lay Cycle Track Pavement (South Section)

Lay Cycle Track Pavement (North Section)

Apply Road Marking

Erect Signage

Install Railing, Fencing & etc

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A1GTRM1300	Remove Ex Surcharge Mound	18	7d	0	30SEP05	22OCT05	10OCT05	10OCT05	31OCT05
A1GTRM1400	Decide Exact Location of Manholes & Catchpits	1	17d	0	30SEP05	30SEP05	22OCT05	22OCT05	22OCT05
A1GTRM1500	S088 - Existing Box Culvert	42	32d	0	12OCT05	28NOV05	18NOV05	07JAN06	07JAN06
A1GTRM1600	S081 - Existing Box Culvert	42	7d	0	24OCT05	10DEC05	01NOV05	19DEC05	19DEC05
A1GTRM1700	S080 - Existing Box Culvert	41	5d	0	18DEC05	04FEB06	22DEC05	11FEB06	11FEB06
A1GTRM1800	S087 - S086	18	32d	0	30NOV05	20DEC05	08JAN06	28JAN06	28JAN06

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A2TTMS0100	ITTA No. 01 - Sul Cheung St. (SB Slow Lane)	1	180	01SEP06	07MAR08	07MAR08	07MAR08	07MAR08	07MAR08
A2TTMS0200	ITTA No. 02 - Sul Cheung St. (SB Fast Lane)	1	100	21APR06	17MAY06	17MAY06	17MAY06	17MAY06	17MAY06
A2TTMS0300	ITTA No. 03 - Existing Ma Liu Shui Bridge	1	400	021MAY06	22JUL06	22JUL06	22JUL06	22JUL06	22JUL06
A2TTMS0400	ITTA No. 04 - Cycle Track	1	50	02MAY06	05JUN06	05JUN06	05JUN06	05JUN06	05JUN06
A2TTMS0500	ITTA No. 05 - Sul Cheung St. Roundabout	1	101d	02MAY06	28SEP06	28SEP06	28SEP06	28SEP06	28SEP06
A2TTMS0600	ITTA No. 06 - Sul Cheung St. Roundabout	1	101d	02JUN06	20OCT06	20OCT06	20OCT06	20OCT06	20OCT06
A2TTMS0700	ITTA No. 07 - Sul Cheung St. Roundabout	1	101d	13JUL06	10NOV06	10NOV06	10NOV06	10NOV06	10NOV06
A2TTMS0800	ITTA No. 08 - Sul Cheung St. & EMLSS	1	50	02AUG06	20AUG06	20AUG06	20AUG06	20AUG06	20AUG06
A2TTMS0900	ITTA No. 09 - Road B1 & Sul Cheung St. R/A	1	1d	02DEC06	04DEC06	04DEC06	04DEC06	04DEC06	04DEC06
A2TTMS1000	Implement Permanent Traffic Scheme	1	1d	02DEC06	20DEC06	20DEC06	20DEC06	20DEC06	20DEC06
Proposed Ma Liu Shui Bridge									
Utility Diversion at Sul Cheung Street									
A2MBUD00100	Trial Pits	12	100	18AUG04	06SEP04	18AUG04	06SEP04	18AUG04	06SEP04
A2MBUD0200	Liaison with CLP & WSD for Diversion Works	30	100	23AUG04	17SEP04	23AUG04	17SEP04	23AUG04	17SEP04
A2MBUD0300	Submit TTA for Approval	24	100	18SEP04	23SEP04	18SEP04	23SEP04	18SEP04	23SEP04
A2MBUD0400	Implement TTA	1	100	03NOV04	03NOV04	03NOV04	03NOV04	03NOV04	03NOV04
A2MBUD0500	CLP 11kV Cables Diversion	21	100	10JAN05	19JAN05	10JAN05	19JAN05	10JAN05	19JAN05
A2MBUD0610	CLP 132kV Cable Ducts Diversion	11	100	26EC04	08JAN05	26EC04	08JAN05	26EC04	08JAN05
A2MBUD0600	Watermain Diversion & Advance Notice to WSD	30	100	08NOV04	11JAN05	08NOV04	11JAN05	08NOV04	11JAN05
A2MBUD0610	Watermain Connection by WSD	18	100	22JAN05	22JAN05	22JAN05	22JAN05	22JAN05	22JAN05
A2MBUD0700	Diversion of Ext. Drainage at VA (VO043B)	24	13d	00DEC05	00JAN06	00DEC05	00JAN06	00DEC05	00JAN06
Existing Structures Survey									
A2MBES0100	Existing Bridge & Road Survey	12	100	07JUL04	20JUL04	07JUL04	20JUL04	07JUL04	20JUL04
A2MBES0200	Stairt Monitoring Proposal	12	100	16AUG04	23AUG04	16AUG04	23AUG04	16AUG04	23AUG04
A2MBES0300	Engineer Approval of Monitoring Proposal	12	100	24AUG04	30AUG04	24AUG04	30AUG04	24AUG04	30AUG04
Pile Driving Works									
A2MBPR0100	Submit the Coordinates of Culvert	1	100	20AUG04	20AUG04	20AUG04	20AUG04	20AUG04	20AUG04
A2MBPR0200	Predrilling (Voided Abutment)	48	100	25SEP04	11NOV04	25SEP04	11NOV04	25SEP04	11NOV04
A2MBPR0400	Predrilling (Pier)	30	100	25SEP04	23OCT04	25SEP04	23OCT04	25SEP04	23OCT04
A2MBPR0900	Predrilling (North Abutment)	24	100	27AUG04	24SEP04	27AUG04	24SEP04	27AUG04	24SEP04
A2MBPR0700	Submit Proposed Founding Level (Voided Abut.)	12	100	01APR05	20APR05	01APR05	20APR05	01APR05	20APR05
A2MBPR0800	Engineer Approve Founding Level (Voided Abut.)	12	100	21APR05	20APR05	21APR05	20APR05	21APR05	20APR05
A2MBPR1100	Submit Proposed Founding Level (Pier)	6	100	01APR05	20APR05	01APR05	20APR05	01APR05	20APR05
A2MBPR1200	Engineer Approval of Founding Level (Pier)	12	100	21APR05	20APR05	21APR05	20APR05	21APR05	20APR05
A2MBPR1300	Submit Proposed Founding Level (N-Abutment)	0	100	21APR05	20APR05	21APR05	20APR05	21APR05	20APR05
A2MBPR1400	Engineer Approval of Founding Level (N-Abutment)	12	100	21APR05	20APR05	21APR05	20APR05	21APR05	20APR05
A2MBPR1500	Proceeding at North Abutment & Up Ramp	100	406	07JUN05	15OCT05	07JUN05	15OCT05	07JUN05	15OCT05
Piling Works									
A2MBPW0100	Mobilization of Piling Plants	0	100	08AUG05	22AUG05	08AUG05	22AUG05	08AUG05	22AUG05
A2MBPW0200	Construct Pile AV1-AV17	60	1d	12JAN06	07DEC06	12JAN06	07DEC06	12JAN06	07DEC06
A2MBPW1300	Construct Pier Pile P1-P12	36	24d	02SEP05	10NOV05	02SEP05	10NOV05	02SEP05	10NOV05
A2MBPW1500	Construct N-Abutment Pile AH1-AH6	24	24d	01NOV05	08DEC05	01NOV05	08DEC05	01NOV05	08DEC05
A2MBPW1810	Load Test at Voided Abutment & Pier (Optional)	24	1d	08DEC05	06JAN06	08DEC05	06JAN06	08DEC05	06JAN06
A2MBPW1800	Load Test at North Abutment (Optional)	24	24d	09DEC05	06JAN06	09DEC05	06JAN06	09DEC05	06JAN06
Ground Beams									
A2MBVA0100	Construct Ground Beams (Stage 1)	12	130	07JAN06	20JAN06	07JAN06	20JAN06	07JAN06	20JAN06
A2MBVA0200	Construct Ground Beams (Stage 2)	12	130	02FEB06	08FEB06	02FEB06	08FEB06	02FEB06	08FEB06

2003 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
 2004 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
 2005 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
 2006 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
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 2017 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
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 2019 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
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 2023 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
 2024 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
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 2048 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
 2049 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
 2050 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

ITTA No. 01 - Sul Cheung St. (SB Slow Lane)
 ITTA No. 02 - Sul Cheung St. (SB Fast Lane)
 ITTA No. 03 - Existing Ma Liu Shui Bridge
 ITTA No. 04 - Cycle Track
 ITTA No. 05 - Sul Cheung St. Roundabout
 ITTA No. 06 - Sul Cheung St. Roundabout
 ITTA No. 07 - Sul Cheung St. Roundabout
 ITTA No. 08 - Sul Cheung St. & EMLSS
 ITTA No. 09 - Road B1 & Sul Cheung St. R/A
 ITTA No. 10 - Implement Permanent Traffic Scheme

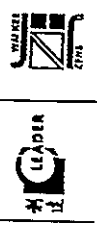
Trial Pits
 Liaison with CLP & WSD for Diversion Works
 Submit TTA for Approval
 Implement TTA
 CLP 11kV Cables Diversion
 CLP 132kV Cable Ducts Diversion
 Watermain Diversion & Advance Notice to WSD
 Watermain Connection by WSD

Existing Bridge & Road Survey
 Submit Monitoring Proposal
 Engineer Approval of Monitoring Proposal

Submit the Coordinates of Culvert
 Predrilling (Voided Abutment)
 Predrilling (Pier)
 Predrilling (North Abutment)
 Submit Proposed Founding Level (Voided Abut.)
 Engineer Approve Founding Level (Voided Abut.)
 Submit Proposed Founding Level (Pier)
 Engineer Approval of Founding Level (Pier)
 Submit Proposed Founding Level (N-Abutment)
 Engineer Approval of Founding Level (N-Abutment)

Proceeding at North Abutment & Up Ramp
 Mobilization of Piling Plants
 Construct Pile AV1-AV17
 Construct Pier Pile P1-P12
 Construct N-Abutment Pile AH1-AH6
 Load Test at Voided Abutment & Pier (Optional)
 Load Test at North Abutment (Optional)

Construct Ground Beams (Stage 1)
 Construct Ground Beams (Stage 2)



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

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

C. Programme Systems, Inc.

AG ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	L316 Start	L316 Finish	L316 Finish	
A2NBRC1200	Concrete Centre Barrier	36	1d	0	21SEP06	06NOV06	22SEP06	04NOV06	04NOV06	
Drainage Works										
A2NBWY0100	Install Drainage System	18	7d	0	05OCT06	26OCT06	14OCT06	04NOV06	04NOV06	
A2NBWY0200	Install Aluminium Rail	18	7d	0	05OCT06	26OCT06	14OCT06	04NOV06	04NOV06	
A2NBWY0300	Install Public Lighting Post	12	13d	0	27OCT06	10NOV06	13NOV06	25NOV06	25NOV06	
A2NBWY0400	Soft Lighting	8	45d	0	05AUG06	11AUG06	27SEP06	03OCT06	03OCT06	
Roads and Pavement										
A2NBWY0500	North Abutment - Backfill to Formation	40	89d	0	08APR06	23MAY06	03AUG06	16SEP06	16SEP06	
A2NBWY0600	North Abutment - Lay Subbase	6	99d	0	30JUN06	10JUL06	26OCT06	04NOV06	04NOV06	
A2NBWY0700	Road Pavement	18	1d	0	04NOV06	24NOV06	06NOV06	25NOV06	25NOV06	
Road Marking, Traffic Signs and Fencing										
A2NBWY0800	Apply Road Marking	6	1d	0	25NOV06	01DEC06	27NOV06	02DEC06	02DEC06	
A2NBWY0900	Erect Signage	12	1d	0	11NOV06	24NOV06	13NOV06	25NOV06	25NOV06	
Retaining Walls										
A2REBA0100	Remove Ext Surcharge Mound	22	45d	0	24OCT06	17NOV06	16DEC06	11JAN06	11JAN06	
Equipments										
A2REWA0100	Bay 1	18	45d	0	18NOV06	08DEC06	12JAN06	01FEB06	01FEB06	
A2REWA0200	Bay 2	14	45d	0	07DEC06	22DEC06	02FEB06	17FEB06	17FEB06	
A2REWA0300	Bay 3	14	45d	0	23DEC06	10JAN06	18FEB06	06MAR06	06MAR06	
A2REWA0400	Bay 4	14	45d	0	11JAN06	26JAN06	07MAR06	22MAR06	22MAR06	
A2REWA0500	Bay 5	14	47d	0	18NOV06	03DEC06	14JAN06	01FEB06	01FEB06	
A2REWA0600	Bay 6	14	47d	0	08DEC06	20DEC06	02FEB06	17FEB06	17FEB06	
A2REWA0700	Bay 7	14	47d	0	21DEC06	07JAN06	18FEB06	06MAR06	06MAR06	
A2REWA0800	Bay 8	14	47d	0	08JAN06	24JAN06	07MAR06	22MAR06	22MAR06	
A2REWA0900	Bay 9	14	29d	0	20DEC06	12JAN06	02FEB06	17FEB06	17FEB06	
A2REWA1000	Bay 10	14	29d	0	13JAN06	28JAN06	18FEB06	06MAR06	06MAR06	
A2REWA1100	Bay 11	14	29d	0	01FEB06	16FEB06	07MAR06	22MAR06	22MAR06	
A2REWA1200	Filling to Road Formation Levels	20	29d	0	06FEB06	26FEB06	11MAR06	03APR06	03APR06	

AG ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	L316 Start	L316 Finish	L316 Finish	
A2RDDW0100	Decide Exact Location of Manholes & Catchpits	1	123d	0	30SEP06	30SEP06	26FEB06	26FEB06	26FEB06	
A2RDDW0200	S815 - S705	38	5d	0	13FEB06	23MAR06	16FEB06	31MAR06	31MAR06	
A2RDDW0300	S828 - S828	31	99d	0	24MAY06	20JUN06	19SEP06	25OCT06	25OCT06	
A2RDDW0400	S818 - S828	24	85d	0	01MAR06	28MAR06	12JUN06	10JUL06	10JUL06	
A2RDDW0500	S896 - S710	27	56d	0	21DEC06	23JAN06	01MAR06	31MAR06	31MAR06	
A2RDDW0600	S810 - S810 (TTA No. 01)	20	19d	0	14FEB06	08MAR06	08MAR06	30MAR06	30MAR06	
A2RDDW0700	S810 - S710 (TTA No. 04)	22	26d	0	30MAY06	24JUN06	30JUN06	24JUL06	24JUL06	
A2RDDW0800	Replace 600 Pipe by 900 Pipe (TTA No. 04)	20	26d	0	30MAY06	22JUN06	23JUN06	17JUL06	17JUL06	
A2RDDW0900	Reconnect Ext MH w/ 1800 Chamber (TTA No. 08)	22	31d	0	22AUG06	16SEP06	27SEP06	23OCT06	23OCT06	
A2RDDW1000	Construct Gullies to Existing Pipe (TTA No. 08)	18	5d	0	12SEP06	02OCT06	18SEP06	09OCT06	09OCT06	
Utility Works										
A2RDUT0000	NWT & HGC - Laying Cable Duct	17	5d	0	27MAR06	15APR06	01APR06	21APR06	21APR06	
A2RDUT0010	NWT & HGC Cable Connection	27	13d	0	17APR06	18MAY06	09MAY06	03JUN06	03JUN06	
A2RDUT0400	WT&T - Laying Cable Duct	17	5d	0	17APR06	09MAY06	22APR06	12MAY06	12MAY06	
A2RDUT0410	WT&T - Cable Connection	28	170d	0	09MAY06	07JUN06	27NOV06	28DEC06	28DEC06	
A2RDUT0800	PCGW - Laying Cable Duct	40	5d	0	17APR06	03JUN06	22APR06	08JUN06	08JUN06	
A2RDUT0810	PCGW - Cable Connection	20	147d	0	05JUN06	05JUL06	27NOV06	28DEC06	28DEC06	

Remove Ext Surcharge Mound

- Bay 1
- Bay 2
- Bay 3
- Bay 4
- Bay 5
- Bay 6
- Bay 7
- Bay 8
- Bay 9
- Bay 10
- Bay 11
- Filling to Road Formation Levels

Drainage Works

- Decide Exact Location of Manholes & Catchpits
- S815 - S705
- S828 - S828
- S818 - S828
- S896 - S710
- S810 - S810 (TTA No. 01)
- S810 - S710 (TTA No. 04)
- Replace 600 Pipe by 900 Pipe (TTA No. 04)
- Reconnect Ext MH w/ 1800 Chamber (TTA No. 08)
- Construct Gullies to Existing Pipe (TTA No. 08)

Utility Works

- NWT & HGC - Laying Cable Duct
- NWT & HGC Cable Connection
- WT&T - Laying Cable Duct
- WT&T - Cable Connection
- PCGW - Laying Cable Duct
- PCGW - Cable Connection

Equipments

- Bay 1
- Bay 2
- Bay 3
- Bay 4
- Bay 5
- Bay 6
- Bay 7
- Bay 8
- Bay 9
- Bay 10
- Bay 11
- Filling to Road Formation Levels

Road Marking, Traffic Signs and Fencing

- Apply Road Marking
- Erect Signage

Retaining Walls

- Remove Ext Surcharge Mound



Contract Dates to

- 03SEP06 - 06NOV06
- 05OCT06 - 03OCT06
- 14OCT06 - 04NOV06
- 26OCT06 - 04NOV06
- 10NOV06 - 25NOV06
- 11AUG06 - 27SEP06
- 23MAY06 - 16SEP06
- 10JUL06 - 26OCT06
- 24NOV06 - 25NOV06
- 01DEC06 - 27NOV06
- 24NOV06 - 13NOV06
- 17NOV06 - 16DEC06
- 08DEC06 - 12JAN06
- 22DEC06 - 02FEB06
- 10JAN06 - 18FEB06
- 26JAN06 - 07MAR06
- 03DEC06 - 14JAN06
- 20DEC06 - 02FEB06
- 07JAN06 - 18FEB06
- 24JAN06 - 07MAR06
- 12JAN06 - 02FEB06
- 28JAN06 - 18FEB06
- 01FEB06 - 07MAR06
- 06FEB06 - 26FEB06
- 30SEP06 - 30SEP06
- 23MAR06 - 31MAR06
- 20JUN06 - 19SEP06
- 28MAR06 - 12JUN06
- 23JAN06 - 01MAR06
- 08MAR06 - 30MAR06
- 30MAY06 - 24JUN06
- 30MAY06 - 22JUN06
- 22AUG06 - 16SEP06
- 12SEP06 - 02OCT06
- 27MAR06 - 15APR06
- 18MAY06 - 09MAY06
- 09MAY06 - 22APR06
- 07JUN06 - 27NOV06
- 17APR06 - 03JUN06
- 05JUN06 - 05JUL06

Legend:

- Start date
- Finish date
- Run date
- Prog Number
- 100UND
- 200C3T07
- 200C3T08
- 200C3T09
- 200C3T10
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- 200C3T96
- 200C3T97
- 200C3T98
- 200C3T99
- 200C3T00

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
AZRDUT0003	Watermain - Laying FW Main Crossing	01APR08	10APR08	01APR08	10APR08	01APR08	10APR08	01APR08	10APR08	01APR08	10APR08
AZRDUT0700	Watermain - Laying FW Main Crossing (TTA No. 04)	02JUN08	03JUL08	02JUN08	03JUL08	02JUN08	03JUL08	02JUN08	03JUL08	02JUN08	03JUL08
AZRDUT0800	Watermain - Replaces Fresh Main (TTA No. 01)	09MAR08	29MAR08	09MAR08	29MAR08	09MAR08	29MAR08	09MAR08	29MAR08	09MAR08	29MAR08
AZRDUT0900	Watermain - Replaces Fresh Main (TTA No. 08)	02AUG08	11SEP08	02AUG08	11SEP08	02AUG08	11SEP08	02AUG08	11SEP08	02AUG08	11SEP08
AZRDUT1000	Install Public Lighting Post (TTA No. 04)	18JUL08	23JUL08	18JUL08	23JUL08	18JUL08	23JUL08	18JUL08	23JUL08	18JUL08	23JUL08
AZRDUT1100	Install Public Lighting Post (TTA No. 06)	18OCT08	28OCT08	18OCT08	28OCT08	18OCT08	28OCT08	18OCT08	28OCT08	18OCT08	28OCT08
AZRDPK0100	Public Lighting - Duct and Kerb	20JUN08	12JUL08	20JUN08	12JUL08	20JUN08	12JUL08	20JUN08	12JUL08	20JUN08	12JUL08
AZRDPK0200	Lay Kerb	11JUL08	17JUL08	11JUL08	17JUL08	11JUL08	17JUL08	11JUL08	17JUL08	11JUL08	17JUL08
AZRDPK0300	Lay Kerb (TTA No. 04)	11OCT08	17OCT08	11OCT08	17OCT08	11OCT08	17OCT08	11OCT08	17OCT08	11OCT08	17OCT08
AZRDPK0400	Lay Kerb (TTA No. 08)	06JUN08	03JUL08	06JUN08	03JUL08	06JUN08	03JUL08	06JUN08	03JUL08	06JUN08	03JUL08
AZRDPK0500	Construct Central Divider	04DEC08	18DEC08	04DEC08	18DEC08	04DEC08	18DEC08	04DEC08	18DEC08	04DEC08	18DEC08
AZRDPK0600	Construct Central Divider	05JUN08	03JUL08	05JUN08	03JUL08	05JUN08	03JUL08	05JUN08	03JUL08	05JUN08	03JUL08
AZRDPK0700	Construct CPB	05JUN08	03JUL08	05JUN08	03JUL08	05JUN08	03JUL08	05JUN08	03JUL08	05JUN08	03JUL08
AZRDPK0800	Lighting Drawpit & Cable Duct	04JUL08	10JUL08	04JUL08	10JUL08	04JUL08	10JUL08	04JUL08	10JUL08	04JUL08	10JUL08
AZRDPK0900	Lighting Drawpit & Cable Duct (TTA No. 04)	03OCT08	10OCT08	03OCT08	10OCT08	03OCT08	10OCT08	03OCT08	10OCT08	03OCT08	10OCT08
AZRDPK1000	Lighting Drawpit & Cable Duct (TTA No. 06)	03OCT08	10OCT08	03OCT08	10OCT08	03OCT08	10OCT08	03OCT08	10OCT08	03OCT08	10OCT08
AZRDPR0100	Trim Formation & Lay Subbase	20JUN08	18JUL08	20JUN08	18JUL08	20JUN08	18JUL08	20JUN08	18JUL08	20JUN08	18JUL08
AZRDPR0200	Trim Formation & Lay Subbase (TTA No. 01)	30MAR08	11APR08	30MAR08	11APR08	30MAR08	11APR08	30MAR08	11APR08	30MAR08	11APR08
AZRDPR0300	Trim Formation & Lay Subbase (TTA No. 02)	23APR08	02MAY08	23APR08	02MAY08	23APR08	02MAY08	23APR08	02MAY08	23APR08	02MAY08
AZRDPR0400	Trim Formation & Lay Subbase (TTA No. 04)	13JUL08	18JUL08	13JUL08	18JUL08	13JUL08	18JUL08	13JUL08	18JUL08	13JUL08	18JUL08
AZRDPR0500	Trim Formation & Lay Subbase (TTA No. 06)	18OCT08	01NOV08	18OCT08	01NOV08	18OCT08	01NOV08	18OCT08	01NOV08	18OCT08	01NOV08
AZRDPR0600	Road Pavement - W/C	20JUL08	19AUG08	20JUL08	19AUG08	20JUL08	19AUG08	20JUL08	19AUG08	20JUL08	19AUG08
AZRDPR0700	Road Pavement - W/C (TTA No. 01)	12APR08	22APR08	12APR08	22APR08	12APR08	22APR08	12APR08	22APR08	12APR08	22APR08
AZRDPR0800	Road Pavement - B/C (TTA No. 02)	03MAY08	04MAY08	03MAY08	04MAY08	03MAY08	04MAY08	03MAY08	04MAY08	03MAY08	04MAY08
AZRDPR1000	Road Pavement - W/C (TTA No. 04)	20JUL08	02AUG08	20JUL08	02AUG08	20JUL08	02AUG08	20JUL08	02AUG08	20JUL08	02AUG08
AZRDPR1100	Road Pavement - W/C (TTA No. 06)	02NOV08	27NOV08	02NOV08	27NOV08	02NOV08	27NOV08	02NOV08	27NOV08	02NOV08	27NOV08
AZRDPR1200	Road Pavement - W/C (TTA No. 08)	18DEC08	23DEC08	18DEC08	23DEC08	18DEC08	23DEC08	18DEC08	23DEC08	18DEC08	23DEC08
AZRDPR1300	Construct Footpath between CT & D 1	03AUG08	18SEP08	03AUG08	18SEP08	03AUG08	18SEP08	03AUG08	18SEP08	03AUG08	18SEP08
AZRDRA0100	Apply Road Marking (TTA No. 04)	28JUL08	02AUG08	28JUL08	02AUG08	28JUL08	02AUG08	28JUL08	02AUG08	28JUL08	02AUG08
AZRDRA0200	Apply Road Marking (TTA No. 06)	23NOV08	27NOV08	23NOV08	27NOV08	23NOV08	27NOV08	23NOV08	27NOV08	23NOV08	27NOV08
AZRDRA0300	Erect Signage	20JUL08	28JUL08	20JUL08	28JUL08	20JUL08	28JUL08	20JUL08	28JUL08	20JUL08	28JUL08
AZRDRA0500	Erect Signage (TTA No. 06)	02NOV08	08NOV08	02NOV08	08NOV08	02NOV08	08NOV08	02NOV08	08NOV08	02NOV08	08NOV08
AZRDRA0600	Install Railing, Fencing & etc	20JUL08	28JUL08	20JUL08	28JUL08	20JUL08	28JUL08	20JUL08	28JUL08	20JUL08	28JUL08
AZRDRA0700	Install Railing, Fencing & etc (TTA No. 06)	02NOV08	08NOV08	02NOV08	08NOV08	02NOV08	08NOV08	02NOV08	08NOV08	02NOV08	08NOV08
AZRDSE0050	Remove Ext Surcharge Mound	24OCT08	17NOV08	24OCT08	17NOV08	24OCT08	17NOV08	24OCT08	17NOV08	24OCT08	17NOV08
AZRDSE0100	Excavate to +4.2 mPD	18NOV08	01DEC08	18NOV08	01DEC08	18NOV08	01DEC08	18NOV08	01DEC08	18NOV08	01DEC08
AZRDSE0200	Fill to Road Formation	02DEC08	31DEC08	02DEC08	31DEC08	02DEC08	31DEC08	02DEC08	31DEC08	02DEC08	31DEC08
AZRSOW0100	Deckle Erect Location of Manholes & Catchpits	30SEP08	30SEP08	30SEP08	30SEP08	30SEP08	30SEP08	30SEP08	30SEP08	30SEP08	30SEP08
AZRSOW0200	8547 - Existing Box Culvert	02JAN09	08FEB09	02JAN09	08FEB09	02JAN09	08FEB09	02JAN09	08FEB09	02JAN09	08FEB09
AZRSOW0300	8633 - Existing Box Culvert	14FEB09	18MAR09	14FEB09	18MAR09	14FEB09	18MAR09	14FEB09	18MAR09	14FEB09	18MAR09
AZRSOW0400	F501 - F502	20MAR08	10APR08	20MAR08	10APR08	20MAR08	10APR08	20MAR08	10APR08	20MAR08	10APR08
AZRSOW0500	8633 - 8629	01MAR08	12APR08	01MAR08	12APR08	01MAR08	12APR08	01MAR08	12APR08	01MAR08	12APR08

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

Start date: 10JUN04 Finish date: 28OCT17 Site date: 28SEP05 Run date: 17OCT05 Prep number: 10A	Legend: ■ Entry bar ■ Progress bar ■ Critical bar ■ Summary bar ◆ Start milestone point ◆ Finish milestone point
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C. Pinneret Systems, Inc.

- Watermain - Laying FW Main Crossing
- Watermain - Replaces Fresh Main (TTA No. 01)
- Watermain - Replaces Fresh Main (TTA No. 08)
- Install Public Lighting Post (TTA No. 04)
- Install Public Lighting Post (TTA No. 06)
- Public Lighting - Duct and Kerb
- Lay Kerb
- Lay Kerb (TTA No. 04)
- Lay Kerb (TTA No. 08)
- Construct Central Divider
- Construct Central Divider
- Construct CPB
- Lighting Drawpit & Cable Duct
- Lighting Drawpit & Cable Duct (TTA No. 04)
- Lighting Drawpit & Cable Duct (TTA No. 06)
- Trim Formation & Lay Subbase
- Trim Formation & Lay Subbase (TTA No. 01)
- Trim Formation & Lay Subbase (TTA No. 02)
- Trim Formation & Lay Subbase (TTA No. 04)
- Trim Formation & Lay Subbase (TTA No. 06)
- Road Pavement - W/C
- Road Pavement - W/C (TTA No. 01)
- Road Pavement - B/C (TTA No. 02)
- Road Pavement - W/C (TTA No. 04)
- Road Pavement - W/C (TTA No. 06)
- Construct Footpath between CT & D 1
- Apply Road Marking (TTA No. 04)
- Apply Road Marking (TTA No. 06)
- Erect Signage
- Erect Signage (TTA No. 06)
- Install Railing, Fencing & etc
- Install Railing, Fencing & etc (TTA No. 06)
- Remove Ext Surcharge Mound
- Excavate to +4.2 mPD
- Fill to Road Formation
- Deckle Erect Location of Manholes & Catchpits
- 8547 - Existing Box Culvert
- 8633 - Existing Box Culvert
- F501 - F502
- 8633 - 8629

Decide Erect Location of Manholes & Catchpits
 S047 - Existing Box Culvert
 S033 - Existing Box Culvert
 F501 - F502
 S033 - 8029

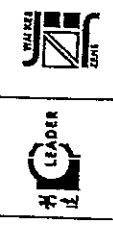
Remove Ext Surcharge Mound
 Excavate to +4.5 mPD
 Fill to Road Formation

Apply Road Marking (TTA No. 04)
 Erect Signage
 Install Railing, Fencing & etc
 Install Railing

Trim Formation & Lay Subbase (TTA No. 01)
 Trim Formation & Lay Subbase (TTA No. 02)
 Trim Formation & Lay Subbase (TTA No. 04)
 Road Pavement - W/C (TTA No. 01)
 Road Pavement - B/C (TTA No. 02)
 Road Pavement - W/C (TTA No. 04)
 Road Pavement - W/C (TTA No. 06)
 Construct Footpath between CT & D 1
 Apply Road Marking (TTA No. 04)
 Erect Signage
 Install Railing, Fencing & etc
 Install Railing

ID	Description	Qty	Unit	Est. Cost	Est. Value	Start	Finish	Notes
A2RSRW0000	8655 - 8655	21	100	0	0	11APR06	05MAY06	22APR06
Utility Works								
A2RSUT0000	NWT & HGC - Laying Cable Duct	18	300	0	0	01MAR06	21MAR06	06APR06
A2RSUT0010	NWT & HGC - Cable Connection	27	440	0	0	17APR06	18MAY06	08JUN06
A2RSUT0030	WT&T - Laying Cable Duct	10	300	0	0	22MAR06	12APR06	27APR06
A2RSUT0010	WT&T - Cable Connection	28	280	0	0	09MAY06	07JUN06	10JUN06
A2RSUT0400	PCOV - Laying Cable Duct	36	300	0	0	22MAR06	04MAY06	27APR06
A2RSUT0410	PCOV - Cable Connection	26	50	0	0	05JUN06	05JUL06	10JUN06
A2RSUT0500	Install Public Lighting Post	8	200	0	0	21JUL06	28JUL06	14AUG06
Public Lighting, Duct and Kerb								
A2RSRP0100	Construct Dwarf Wall	34	100	0	0	06MAY06	15JUN06	19MAY06
A2RSRP0200	Lay Kerb	9	100	0	0	11JUL06	20JUL06	22AUG06
A2RSRP0300	Lighting Dramppt & Cable Duct	20	100	0	0	18JUN06	10JUL06	28JUN06
Roads and Pavement								
A2RSRP0100	Trim Formation & Lay Subbase	18	210	0	0	18JUN06	07JUL06	12JUL06
A2RSRP0200	Road Pavement	18	100	0	0	21JUL06	10AUG06	02AUG06
A2RSRP0300	Construct Footpath between C/T and RW No. 1	24	50	0	0	08JUL06	02AUG06	18JUL06
Road Marking, Traffic Signs and Furniture								
A2RSRM0100	Apply Road Marking	9	50	0	0	17AUG06	18AUG06	23AUG06
A2RSRM0200	Erect Signage	12	50	0	0	03AUG06	18AUG06	09AUG06
A2RSRM0300	Install Railing, Fencing & etc	12	50	0	0	03AUG06	10AUG06	09AUG06
Existing Sid. Chyng Street								
Ditching Works								
A2SDCW0100	Excise Exact Location of Manholes & Catchpits	1	1850	0	0	30SEP06	30SEP06	10MAY06
A2SDCW0200	8654 - 8647 (TTA No. 04)	42	50	0	0	09MAY06	27JUN06	15MAY06
A2SDCW0300	Construct Gullies (TTA No. 06)	4	380	0	0	22AUG06	25AUG06	03OCT06
Utility Works								
A2SCUT0000	Watermain - Replace SWM (TTA No. 04)	24	50	0	0	14JUN06	12JUL06	20JUN06
A2SCUT0100	Watermain - Lay FWM Crossing (TTA No. 04)	18	50	0	0	21JUN06	12JUL06	27JUN06
A2SCUT0200	Watermain - Lay FWM Crossing (TTA No. 06)	24	380	0	0	28AUG06	22SEP06	06NOV06
A2SCUT0300	Install Public Lighting Post (TTA No. 04)	8	140	0	0	01AUG06	09AUG06	17AUG06
A2SCUT0400	Install Public Lighting Post (TTA No. 06)	6	360	0	0	09OCT06	17OCT06	21NOV06
Public Lighting (Duct and Kerb)								
A2SCRP0100	Lay Kerb (TTA No. 04)	8	50	0	0	22JUL06	31JUL06	28JUL06
A2SCRP0200	Lay Kerb (TTA No. 06)	8	380	0	0	30SEP06	06OCT06	14NOV06
A2SCRP0300	Lighting Dramppt & Cable Duct (TTA No. 04)	8	50	0	0	13JUL06	21JUL06	19JUL06
A2SCRP0400	Lighting Dramppt & Cable Duct (TTA No. 06)	8	380	0	0	23SEP06	29SEP06	07NOV06
Roads and Pavement								
A2SRP0100	Trim Formation & Lay Subbase (TTA No. 04)	12	50	0	0	22JUL06	04AUG06	28JUL06
A2SRP0200	Road Pavement (TTA No. 04)	12	50	0	0	05AUG06	18AUG06	11AUG06
A2SRP0300	Road Pavement (TTA No. 06)	8	380	0	0	09OCT06	17OCT06	21NOV06
A2SRP0400	Remove Existing Traffic Island (TTA No. 02)	8	180	0	0	25APR06	02MAY06	18MAY06
A2SRP0600	Road Pavement (TTA No. 02)	8	180	0	0	03MAY06	11MAY06	28MAY06
Road Marking, Traffic Signs and Furniture								
A2SRM0000	Apply Road Marking (TTA No. 04)	1	50	0	0	18AUG06	18AUG06	25AUG06
A2SRM0100	Apply Road Marking (TTA No. 06)	3	380	0	0	18OCT06	20OCT06	30NOV06
A2SRM0200	Erect Signage	12	740	0	0	18AUG06	01SEP06	16NOV06
A2SRM0300	Install Railing, Fencing & etc	12	740	0	0	18AUG06	01SEP06	16NOV06

NWT & HGC - Laying Cable Duct
 NWT & HGC - Cable Connection
 WT&T - Laying Cable Duct
 WT&T - Cable Connection
 PCOV - Laying Cable Duct
 PCOV - Cable Connection
 Install Public Lighting Post
 Construct Dwarf Wall
 Lay Kerb
 Lighting Dramppt & Cable Duct
 Trim Formation & Lay Subbase
 Road Pavement
 Construct Footpath between C/T and RW No. 1
 Apply Road Marking
 Erect Signage
 Install Railing, Fencing & etc
 Excise Exact Location of Manholes & Catchpits
 8654 - 8647 (TTA No. 04)
 Construct Gullies (TTA No. 06)
 Watermain - Replace SWM (TTA No. 04)
 Watermain - Lay FWM Crossing (TTA No. 04)
 Watermain - Lay FWM Crossing (TTA No. 06)
 Install Public Lighting Post (TTA No. 04)
 Install Public Lighting Post (TTA No. 06)
 Lay Kerb (TTA No. 04)
 Lay Kerb (TTA No. 06)
 Lighting Dramppt & Cable Duct (TTA No. 04)
 Lighting Dramppt & Cable Duct (TTA No. 06)
 Trim Formation & Lay Subbase
 Road Pavement (TTA No. 04)
 Road Pavement (TTA No. 06)
 Remove Existing Traffic Island (TTA No. 02)
 Road Pavement (TTA No. 02)
 Apply Road Marking (TTA No. 04)
 Apply Road Marking (TTA No. 06)
 Erect Signage
 Install Railing, Fencing & etc



Leader - Wai Koo (C&T) Joint Venture
 TP37103 - Revised Works Programme - RP04

Start date	10JUN04
Finish date	20OCT07
Bill date	28SEP05
Run date	17OCT06
Page number	1/1



Legend:
 ■ Entry bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

c: Primavera Systems, Inc.

Job ID	Description	Qty	Total Qty	Progress %	Early Start	Early Finish	Late Start	Late Finish
A2SRP0100	Laying Lighting Cross Road Duct (TTA No. 05)	4	1016	0	08JUN06	12JUN06	05OCT06	10OCT06
A2SRP0200	Laying Lighting Cross Road Duct (TTA No. 06)	4	1016	0	20JUN06	26JUN06	24OCT06	27OCT06
A2SRP0300	Demolish Existing Island (TTA No. 05)	6	1016	0	28MAY06	07JUN06	26SEP06	04OCT06
A2SRP0400	Construct Proposed Island (TTA No. 06)	6	1016	0	13JUN06	21JUN06	11OCT06	18OCT06
A2SRP0500	Demolish Existing Kerb (TTA No. 06)	2	1016	0	23JUN06	24JUN06	21OCT06	23OCT06
A2SRP0600	Lay Kerb (TTA No. 06)	6	1016	0	30JUN06	10JUL06	29OCT06	07NOV06
A2SRP0700	Demolish Existing Roundabout (TTA No. 07)	6	1016	0	14JUL06	22JUL06	11NOV06	20NOV06
A2SRP0800	Reconstruct Roundabout (TTA No. 07)	6	1016	0	24JUL06	01AUG06	21NOV06	28NOV06
A2SRP0900	Reinstate Road Pavement (TTA No. 06)	2	1016	0	11JUL06	19JUL06	08NOV06	06NOV06
A2SRP1000	Resurfacing Wearing Course	6	1016	0	02AUG06	10AUG06	30NOV06	08DEC06
A2SRP1100	Construct Proposed Island (TTA No. 06)	12	74	0	04DEC06	16DEC06	12DEC06	25DEC06
A2SRM0100	Apply Road Marking	2	1016	0	26AUG06	20AUG06	20DEC06	25DEC06
A2SRM0200	Erect Signage	12	1016	0	11AUG06	24AUG06	06DEC06	22DEC06
A2SRM0300	Install Railing, Fencing & etc	12	1016	0	11AUG06	24AUG06	06DEC06	22DEC06
A2SRM0400	Install Public Lighting Post	6	616	0	03OCT06	12OCT06	16DEC06	23DEC06
A2SRM0500	Lay Kerb (TTA No. 03)	6	466	0	13JUN06	21JUN06	07AUG06	15AUG06
A2SRM0600	Cable Duct Laying on Island	6	756	0	28AUG06	01SEP06	24NOV06	30NOV06
A2SRM0700	Cable Duct Laying on Reserve	6	676	0	06SEP06	11SEP06	13NOV06	18NOV06
A2SRM0800	Demolish Existing Parapet (TTA No. 03)	12	1144	0	28MAY06	12JUN06	12OCT06	25OCT06
A2SRM0900	Demolish Island & Paved Area (TTA No. 03)	12	466	0	28MAY06	12JUN06	24JUL06	06AUG06
A2SRM1000	Road Pavement (TTA No. 03)	6	466	0	22JUN06	30JUN06	16AUG06	24AUG06
A2SRM1100	Construct Roundabout on V-Abutment (TTA No. 03)	4	756	0	22AUG06	25AUG06	20NOV06	23NOV06
A2SRM1200	Remove Pavement at Proposed Island (TTA No. 08)	6	756	0	02SEP06	11SEP06	01DEC06	09DEC06
A2SRM1300	Construct Traffic Island (TTA No. 06)	12	816	0	22AUG06	04SEP06	27NOV06	06DEC06
A2SRM1400	Demolish Existing Central Reserve (TTA No. 06)	12	676	0	22AUG06	04SEP06	28OCT06	11NOV06
A2SRM1500	Construct New Central Reserve (TTA No. 06)	18	576	0	12SEP06	02OCT06	20NOV06	06DEC06
A2SRM1600	Apply Road Marking (TTA No. 03)	1	466	0	03JUL06	03JUL06	26AUG06	26AUG06
A2SRM1700	Apply Road Marking (TTA No. 08)	1	576	0	16OCT06	16OCT06	26DEC06	26DEC06
A2SRM1800	Erect Signage	12	576	0	03OCT06	17OCT06	11DEC06	23DEC06
A2SRM1900	Install Railing, Fencing & etc	12	576	0	03OCT06	17OCT06	11DEC06	23DEC06
A2SRM2000	Apply Road Marking (TTA No. 03)	21	866	0	06MAY06	30MAY06	19AUG06	12SEP06
A2SRM2100	CP602 - 8604	10	866	0	01JUN06	19JUN06	13SEP06	30SEP06
A2SRM2200	Install Public Lighting Post	6	1066	0	14AUG06	22AUG06	16DEC06	26DEC06
A2SRM2300	Construct Dwarf Wall	20	866	0	20JUN06	17JUL06	02OCT06	20OCT06
A2SRM2400	Lay Kerb	6	866	0	04AUG06	12AUG06	17NOV06	28NOV06

Legend:

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






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

ID	Description	Start		Finish		Start	Finish	Start	Finish
		DU	FR	DU	FR				
A3CPR00100	Public Lighting Controller	10	11/04	0	18/JUL/06	24/JUL/06	03/AUG/06	09/DEC/06	16/NOV/06
A3CPR00100	Lighting Ductwork & Cable Duct	15	8/04	0	18/JUL/06	03/AUG/06	31/OCT/06	16/NOV/06	16/NOV/06
A3CPR00100	Trim Formation & Lay Subbase	8	9/04	0	14/AUG/06	22/AUG/06	09/DEC/06	14/DEC/06	14/DEC/06
A3CPR00200	Road Pavement	8	9/04	0	23/AUG/06	31/AUG/06	15/DEC/06	23/DEC/06	23/DEC/06
A3CPR00300	Construct Footpaths	18	8/04	0	14/AUG/06	02/SEP/06	27/NOV/06	16/DEC/06	16/DEC/06
A3CPR00300	Road Marking - Traffic Signs and Fencing	2	8/04	0	11/SEP/06	12/SEP/06	25/DEC/06	26/DEC/06	26/DEC/06
A3CPR00300	Erect Signage	8	8/04	0	04/SEP/06	09/SEP/06	16/DEC/06	23/DEC/06	23/DEC/06
A3CPR00300	Install Railing, Fencing & etc	6	8/04	0	04/SEP/06	09/SEP/06	16/DEC/06	23/DEC/06	23/DEC/06
A3AMP00100	Construct U-Channels	18	11/04	0	18/JUL/06	07/AUG/06	09/DEC/06	26/DEC/06	26/DEC/06
A3AMU00100	Water Point WP1-3 to Water Meter No.1	16	6/10	0	06/SEP/06	29/SEP/06	22/NOV/06	12/DEC/06	12/DEC/06
A3AMU00200	Water Point WP2-3 to Water Meter No.2	17	13/06	0	28/JUN/06	18/JUL/06	07/DEC/06	26/DEC/06	26/DEC/06
A3AMU00300	Water Point WP3-5 to Water Meter No.3	20	10/10	0	22/JUL/06	21/AUG/06	27/NOV/06	20/DEC/06	20/DEC/06
A3AMU00400	Water Point WP4-2 to Water Meter No.4	12	6/10	0	03/SEP/06	14/OCT/06	13/DEC/06	20/DEC/06	20/DEC/06
Section 3									
Water Point Subway									
A3MSEA0100	Remove Surcharge Mound	10	5/04	0	30/SEP/06	22/OCT/06	07/OCT/06	28/OCT/06	28/OCT/06
A3MSPH0100	Construct Base Slab	6	5/04	0	07/NOV/06	10/NOV/06	12/NOV/06	21/NOV/06	21/NOV/06
A3MSPH0200	Construct Wall upto Barrel Base Slab	8	5/04	0	16/NOV/06	24/NOV/06	22/NOV/06	30/NOV/06	30/NOV/06
A3MSPH0300	Construct Wall up to Top Slab	12	5/04	0	09/DEC/06	22/DEC/06	15/DEC/06	30/DEC/06	30/DEC/06
A3MSPH0400	Construct Top Slab	12	5/04	0	09/JAN/06	21/JAN/06	15/JAN/06	03/FEB/06	03/FEB/06
A3MSPH0500	Install Hoisting Beam	6	5/04	0	02/JAN/06	07/JAN/06	07/JAN/06	13/JAN/06	13/JAN/06
Slipway Earth Construction									
A3MSSB0100	Excavation	24	5/04	0	24/OCT/06	19/NOV/06	29/OCT/06	25/NOV/06	25/NOV/06
A3MSSB0200	Construct Subway #1 Base Slab	9	3/06	0	21/NOV/06	30/NOV/06	28/DEC/06	06/JAN/06	06/JAN/06
A3MSSB0300	Construct Subway #2 Base Slab	9	17/06	0	17/NOV/06	28/NOV/06	07/DEC/06	16/DEC/06	16/DEC/06
A3MSSB0400	Construct Subway #3 Base Slab	9	10/06	0	07/NOV/06	16/NOV/06	16/NOV/06	28/NOV/06	28/NOV/06
A3MSSB0500	Construct Subway #4 Base Slab	12	5/04	0	25/NOV/06	09/DEC/06	14/DEC/06	14/DEC/06	14/DEC/06
A3MSSB0600	Construct Subway #1 Wall + Top Slab	16	10/06	0	24/DEC/06	13/JAN/06	07/JAN/06	23/JAN/06	23/JAN/06
A3MSSB0700	Construct Subway #2 Wall + Top Slab	16	10/06	0	09/DEC/06	23/DEC/06	17/DEC/06	06/JAN/06	06/JAN/06
A3MSSB0800	Construct Subway #3 Wall + Top Slab	16	10/06	0	17/NOV/06	09/DEC/06	28/NOV/06	16/DEC/06	16/DEC/06
A3MSSB0900	Construct Subway #4 Wall + Top Slab	16	5/04	0	06/JAN/06	20/JAN/06	14/JAN/06	03/FEB/06	03/FEB/06
A3MSSB1000	Backfilling	18	5/04	0	20/JAN/06	11/FEB/06	28/JAN/06	17/FEB/06	17/FEB/06
Slipway East Ramp Construction									
A3MSSER0100	Excavation (East Ramp)	24	5/04	0	31/OCT/06	26/NOV/06	05/NOV/06	02/DEC/06	02/DEC/06
A3MSSER0200	Construct E1 Ramp Base Slab	6	11/06	0	12/DEC/06	17/DEC/06	24/DEC/06	02/JAN/06	02/JAN/06
A3MSSER0300	Construct E2 Ramp Base Slab	6	11/06	0	05/DEC/06	10/DEC/06	17/DEC/06	23/DEC/06	23/DEC/06
A3MSSER0400	Construct E3 Ramp Base Slab	6	9/06	0	28/NOV/06	03/DEC/06	09/DEC/06	14/DEC/06	14/DEC/06
A3MSSER0500	Construct E4 Ramp Base Slab	6	9/06	0	18/NOV/06	28/NOV/06	28/NOV/06	07/DEC/06	07/DEC/06
A3MSSER0600	Construct E5 Ramp Base Slab	6	11/06	0	02/DEC/06	10/DEC/06	16/DEC/06	23/DEC/06	23/DEC/06
A3MSSER0700	Construct E6 Ramp Base Slab	6	9/06	0	23/NOV/06	01/DEC/06	07/DEC/06	12/DEC/06	12/DEC/06
A3MSSER0800	Construct E7 Ramp Base Slab	12	5/04	0	09/NOV/06	22/NOV/06	15/NOV/06	28/NOV/06	28/NOV/06

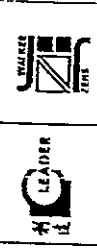
Legend

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

Leader - Wal Kee (C&T) Joint Venture
TP37703 - Revised Works Programme - RP04

Activity ID	Description	Qty	Total Buy	Percent Complete	Esty Start	Esty Finish	Daily Start	Daily Finish	L16 Start	L16 Finish	2003																			
											JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC								
A3MSSE1700	Construct E8 Ramp Base Slab	8	13d	0	23NOV05	01DEC05	01DEC05	08DEC05	10DEC05	10DEC05																				
A3MSSE1900	Construct E9 Ramp Base Slab	8	15d	0	02DEC05	10DEC05	10DEC05	20DEC05	20DEC05	30DEC05																				
A3MSSE1400	Construct E1 Ramp Walls	6	8d	0	21DEC05	29DEC05	29DEC05	03JAN06	03JAN06	03JAN06																				
A3MSSE1500	Construct E2 Ramp Walls	6	8d	0	14DEC05	20DEC05	20DEC05	24DEC05	24DEC05	02JAN06																				
A3MSSE1600	Construct E3 Ramp Walls	6	8d	0	07DEC05	13DEC05	13DEC05	17DEC05	17DEC05	02JAN06																				
A3MSSE1700	Construct E4 Ramp Walls	6	8d	0	28NOV05	06DEC05	06DEC05	08DEC05	08DEC05	18DEC05																				
A3MSSE2000	Construct E5 Ramp Walls	10	5d	0	19DEC05	31DEC05	31DEC05	24DEC05	24DEC05	03JAN06																				
A3MSSE2100	Construct E6 Ramp Walls	10	5d	0	07DEC05	17DEC05	17DEC05	18DEC05	18DEC05	23DEC05																				
A3MSSE2200	Construct E7 Ramp Walls	12	5d	0	23NOV05	08DEC05	08DEC05	28NOV05	28NOV05	12DEC05																				
A3MSSE2300	Construct E8 Ramp Walls	10	8d	0	07DEC05	17DEC05	17DEC05	17DEC05	17DEC05	30DEC05																				
A3MSSE2500	Construct E9 Ramp Walls	6	8d	0	19DEC05	24DEC05	24DEC05	31DEC05	31DEC05	03JAN06																				
A3MSSE2600	Backfilling	20	5d	0	16DEC05	10JAN06	10JAN06	22DEC05	22DEC05	16JAN06																				
A3MSSE2700	Install Roof Steel Posts	18	62d	0	11JAN06	02FEB06	02FEB06	27MAR06	27MAR06	17APR06																				
A3MSSE2900	Construct Roof Slab E8	12	82d	0	03FEB06	18FEB06	18FEB06	18APR06	02MAY06	16MAY06																				
A3MSSE3200	Construct Roof Slab E3	12	82d	0	17FEB06	02MAR06	02MAR06	03MAY06	16MAY06	30MAY06																				
A3MSSE3300	Construct Roof Slab E4, E7	12	82d	0	03MAR06	18MAR06	18MAR06	17MAY06	30MAY06																					
A3MSSE3400	Construct Roof Slab E5, E8	12	82d	0	17MAR06	30MAR06	30MAR06	01JUN06	14JUN06																					
A3MSSE3500	Construct Roof Slab E2	12	82d	0	31MAR06	14APR06	14APR06	15JUN06	28JUN06																					
A3MSSE3600	Construct Roof Slab E1, E9	12	82d	0	15APR06	28APR06	28APR06	20JUN06	13JUL06																					
Subtotal Work Ramp Construction																														
A3MSW100	Excavation (Western Ramp)	41	20d	0	28NOV05	16JAN06	16JAN06	21DEC05	10FEB06																					
A3MSW10200	Construct W1 Ramp Base Slab	8	43d	0	17JAN06	25JAN06	25JAN06	16MAR06	16MAR06																					
A3MSW10300	Construct W2 Ramp Base Slab	8	42d	0	06JAN06	14JAN06	14JAN06	27FEB06	07MAR06																					
A3MSW10400	Construct W3 Ramp Base Slab	10	20d	0	20DEC05	05JAN06	05JAN06	16JAN06	28JAN06																					
A3MSW10600	Construct W4 Ramp Base Slab	12	20d	0	06DEC05	22DEC05	22DEC05	04JAN06	17JAN06																					
A3MSW10700	Construct W5 Ramp Base Slab	10	20d	0	23DEC05	06JAN06	06JAN06	18JAN06	28JAN06																					
A3MSW10800	Construct W6 Ramp Base Slab	8	52d	0	06JAN06	14JAN06	14JAN06	10MAR06	18MAR06																					
A3MSW10900	Construct W1 Ramp Walls	10	20d	0	24FEB06	07MAR06	07MAR06	20MAR06	30MAR06																					
A3MSW11000	Construct W2 Ramp Walls	10	20d	0	13FEB06	23FEB06	23FEB06	06MAR06	16MAR06																					
A3MSW11200	Construct W3 Ramp Walls	10	20d	0	01FEB06	11FEB06	11FEB06	24FEB06	07MAR06																					
A3MSW11300	Construct W4 Ramp Walls	20	20d	0	06JAN06	28JAN06	28JAN06	01FEB06	23FEB06																					
A3MSW11400	Construct W5 Ramp Walls	20	20d	0	01FEB06	23FEB06	23FEB06	24FEB06	18MAR06																					
A3MSW11500	Construct W6 Ramp Walls	10	20d	0	24FEB06	07MAR06	07MAR06	20MAR06	30MAR06																					
A3MSW11600	Backfilling	20	20d	0	08MAR06	30MAR06	30MAR06	31MAR06	24APR06																					
A3MSW11700	Install Roof Posts	18	20d	0	31MAR06	21APR06	21APR06	25APR06	18MAY06																					
A3MSW11800	Construct Roof Slab W3	12	20d	0	22APR06	08MAY06	08MAY06	17MAY06	30MAY06																					
A3MSW11900	Construct Roof Slab W4	12	20d	0	08MAY06	20MAY06	20MAY06	01JUN06	14JUN06																					
A3MSW22000	Construct Roof Slab W2, W5	12	20d	0	22MAY06	05JUN06	05JUN06	15JUN06	28JUN06																					
A3MSW21000	Construct Roof Slab W1, W6	12	20d	0	06JUN06	18JUN06	18JUN06	28JUN06	13JUL06																					
Subtotal Work Driveway System																														
A3MSPO100	Pumping System Installation	30	186d	0	08MAR06	12APR06	12APR06	25SEP06	31OCT06																					
A3MSPO200	Drainage System Installation	20	20d	0	20JUN06	13JUL06	13JUL06	05AUG06																						
Miscellaneous Work																														
A3MSW0100	Miscellaneous Metal Works	24	44d	0	06OCT06	04NOV06	04NOV06	28NOV06	28DEC06																					
A3MSW0100	Finishing Works at Barn	24	20d	0	14JUL06	10AUG06	10AUG06	07AUG06	02SEP06																					
Summary Work																														



Bar chart	100%	100%
Progress bar	200%	200%
Critical bar	250%	250%
Burden bar	300%	300%
Start milestone point	350%	350%
Finish milestone point	400%	400%


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ID	Description	Quantity	Unit	Start	Finish	Start	Finish	Start	Finish
A3MSPW0200	Finishing Works at East Ramp	24	200	01AUG06	07SEP06	04SEP06	30SEP06		
A3MSPW0300	Finishing Works at West Ramp	24	200	01AUG06	05OCT06	02OCT06	31OCT06		
A3MSEMI000	Electrical Installation at Barrel & Pump House	24	880	01AUG06	07SEP06	01NOV06	28NOV06		
A3MSEMI0200	Electrical Installation at East Ramp	24	440	01AUG06	05OCT06	01NOV06	28NOV06		
A3MSEMI0300	Electrical Installation at West Ramp	24	200	01AUG06	04NOV06	01NOV06	28NOV06		
A3MSTC0100	Pumping System & Electrical Installation	24	200	01NOV06	02DEC06	28NOV06	20DEC06		
Drainage Works									
A3LUDW0100	Decide Location of Manholes & Catchpits	1	1720	03SEP06	30SEP06	27APR06	27APR06		
A3LUDW0200	F302 - F306	28	236	03JUN06	05JUL06	03JUL06	01AUG06		
A3LUDW0300	Trial Pit for F306 - F306A (Deliver)	10	100	28JAN06 A	28JAN06 A	28JAN06 A	28JAN06 A		
A3LUDW0400	F306 - F306A	11	3184	03SEP06	14OCT06	16OCT06	01NOV06		
A3LUDW0500	F306 - F306A (TTA No. 06)	11	816	02AUG06	02SEP06	27NOV06	08DEC06		
A3LUDW0600	F306A - Establish Sewer Manhole	21	3180	01FEOCT06	08NOV06	02NOV06	28NOV06		
A3LUDW0700	S712 - S622	21	236	031MAR06	25APR06	28APR06	23MAY06		
A3LUDW0800	S617 - S618	11	236	02APR06	08MAY06	24MAY06	06JUN06		
A3LUDW1000	S676 - S624	21	236	01MAY06	03JUN06	07JUN06	30JUN06		
A3LUDW1100	S676 - S623 (TTA no. 04)	20	400	06JUL06	04AUG06	29AUG06	27SEP06		
A3LUDW1100	S713 - S634	21	236	06JUL06	20JUL06	02AUG06	25AUG06		
Utility Works									
A3LUPK0100	CLP - Laying LV Cable	6	236	02SEP06	07SEP06	28SEP06	04OCT06		
A3LUPK0200	CLP - Construct Pillar Box	5	1476	031MAR06	08APR06	23SEP06	28SEP06		
A3LUPK0300	Install Public Lighting Post	6	876	05SEP06	16SEP06	16DEC06	20DEC06		
Public Lighting									
A3LUPK0100	Construct Dwarf Wall	50	236	06JUL06	01SEP06	02AUG06	28SEP06		
A3LUPK0200	Construct Dwarf Wall (TTA No. 04)	6	480	05AUG06	11AUG06	28SEP06	04OCT06		
A3LUPK0300	Lay Kerb (TTA No. 04)	12	236	28SEP06	13OCT06	27OCT06	10NOV06		
A3LUPK0400	Lay Kerb (TTA No. 06)	6	860	02AUG06	28AUG06	02DEC06	08DEC06		
A3LUPK0500	Lighting Drawpit & Cable Duct (TTA No. 04)	16	236	08SEP06	28SEP06	05OCT06	26OCT06		
A3LUPK0600	Lighting Drawpit & Cable Duct (TTA No. 06)	6	876	29AUG06	04SEP06	11DEC06	10DEC06		
Roads and Pavement									
A3LUPR0100	Trim Formation & Lay Subbase (TTA No. 06)	8	436	14OCT06	20OCT06	09DEC06	13DEC06		
A3LUPR0200	Road Pavement (TTA No. 06)	6	436	21OCT06	02NOV06	14DEC06	22DEC06		
A3LUPR0300	Construct Footpath (TTA No. 04)	24	236	14OCT06	11NOV06	11NOV06	08DEC06		
A3LUPR0400	Construct Footpath (TTA No. 06)	6	236	13NOV06	18NOV06	09DEC06	16DEC06		
Road Marking & Traffic Signs and Fencing									
A3LUPRM0100	Apply Road Marking	2	236	27NOV06	28NOV06	20DEC06	20DEC06		
A3LUPRM0200	Erect Signage	6	236	20NOV06	28NOV06	16DEC06	22DEC06		
A3LUPRM0300	Install Fencing, Fencing & etc	6	236	20NOV06	28NOV06	16DEC06	22DEC06		
Accessory Works									
A3AMPW0100	Construct U-Channel	36	616	02SEP06	14OCT06	16NOV06	20DEC06		
Utility Works									
A3AMUT0100	Water Point WP4-2 to Water Meter No.3	16	616	09SEP06	27SEP06	10NOV06	28NOV06		
A3AMUT0200	Water Point WP5-2 to Water Meter No.5	10	616	20SEP06	10OCT06	20NOV06	09DEC06		
A3AMUT0300	Water Point WP6-2 to Water Meter No.6	14	616	11OCT06	28OCT06	11DEC06	28DEC06		

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

Start date: 10JUN04
 Finish date: 20OCT07
 Core date: 28SEP06
 Run date: 17OCT05
 Page number: 15A

c Primavera Systems, Inc.


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

Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Foundation Construction							
A1PTFC0100 Excavation to Formation Level	0	36d	0	28SEP05	06OCT05	12NOV05	18NOV05
A1PTFC0200 Subsoil Inspection by Structural Engineer	1	36d	0	07OCT05	07OCT05	18NOV05	18NOV05
A1PTFC0300 Blinding	1	36d	0	08OCT05	08OCT05	21NOV05	21NOV05
A1PTFC0400 Steel Fixing for Footing	6	36d	0	10OCT05	17OCT05	22NOV05	28NOV05
A1PTFC0500 Formwork	4	36d	0	18OCT05	21OCT05	28NOV05	02DEC05
A1PTFC0600 Concreting	1	36d	0	22OCT05	22OCT05	03DEC05	03DEC05
A1PTFC0700 Steel Fixing for Walls & Columns	3	36d	0	24OCT05	28OCT05	05DEC05	07DEC05
A1PTFC0800 Formwork	4	36d	0	27OCT05	31OCT05	08DEC05	12DEC05
A1PTFC0900 Concreting	1	36d	0	01NOV05	01NOV05	13DEC05	13DEC05
A1PTFG1000 Remove Formwork	6	36d	0	02NOV05	08NOV05	14DEC05	20DEC05
A1PTFG1100 Backfilling	12	36d	0	08NOV05	22NOV05	21DEC05	05JAN06
Ground Floor Slab Construction							
A1PTGF0100 Erect Propping & Formwork	6	36d	0	23NOV05	28NOV05	06JAN06	12JAN06
A1PTGF0200 Ground Slab Steel Fixing	3	36d	0	30NOV05	02DEC05	13JAN06	16JAN06
A1PTGF0300 Formwork	2	36d	0	03DEC05	05DEC05	17JAN06	19JAN06
A1PTGF0400 Concreting	1	36d	0	05DEC05	06DEC05	19JAN06	19JAN06
A1PTGF0500 Erect Scaffolding	3	36d	0	07DEC05	09DEC05	20JAN06	23JAN06
A1PTGF0600 Walls & Columns Formwork	3	36d	0	10DEC05	13DEC05	24JAN06	26JAN06
A1PTGF0700 Steel Fixing for Walls & Columns	3	36d	0	14DEC05	16DEC05	27JAN06	01FEB06
A1PTGF0800 Formwork	3	36d	0	17DEC05	20DEC05	02FEB06	04FEB06
A1PTGF0900 Concreting	1	36d	0	21DEC05	21DEC05	06FEB06	08FEB06
A1PTGF1000 Remove Formwork & Propping	12	36d	0	02JAN06	14JAN06	15FEB06	28FEB06
Mezzanine Floor Slab Construction							
A1PTMF0100 Erect Propping & Formwork	0	36d	0	16JAN06	21JAN06	01MAR06	07MAR06
A1PTMF0200 Mezzanine Slab Steel Fixing	2	36d	0	23JAN06	25JAN06	06MAR06	10MAR06
A1PTMF0300 Formwork	3	36d	0	26JAN06	27JAN06	11MAR06	13MAR06
A1PTMF0400 Concreting	1	36d	0	28JAN06	28JAN06	14MAR06	14MAR06
A1PTMF0500 Walls & Columns Formwork	3	36d	0	01FEB06	03FEB06	16MAR06	17MAR06
A1PTMF0600 Steel Fixing for Walls & Columns	3	36d	0	04FEB06	07FEB06	18MAR06	21MAR06
A1PTMF0700 Formwork	3	36d	0	08FEB06	10FEB06	22MAR06	24MAR06
A1PTMF0800 Concreting	1	36d	0	11FEB06	11FEB06	23MAR06	25MAR06
A1PTMF0900 Remove Formwork & Propping	12	36d	0	21FEB06	06MAR06	05APR06	18APR06
Upper Mezzanine Floor Slab Construction							
A1PTUF0100 Erect Propping & Formwork	0	36d	0	07MAR06	13MAR06	19APR06	25APR06
A1PTUF0200 Upper Mezzanine Slab Steel Fixing	3	36d	0	14MAR06	18MAR06	26APR06	28APR06
A1PTUF0300 Formwork	2	36d	0	17MAR06	18MAR06	28APR06	02MAY06
A1PTUF0400 Concreting	1	36d	0	20MAR06	20MAR06	03MAY06	03MAY06
A1PTUF0500 Remove Formwork & Propping	12	36d	0	28MAR06	12APR06	12MAY06	26MAY06
Structural Steelwork							
A1PTSS0100 Prepare & Submit Shop Drawings	30	33d	90	01SEP05	30SEP05	01SEP05	10NOV05
A1PTSS0200 Engineer Approval of Shop Drawings	12	33d	0	03OCT05	17OCT05	11NOV05	21NOV05
A1PTSS0300 Procurement of Structural Steel	120	33d	0	16OCT05	10MAR06	28NOV05	10APR06
A1PTSS0400 Delivery of Structural Steel Materials	12	36d	0	11MAR06	24MAR06	20APR06	04MAY06
A1PTSS0500 Inspection & Testing	16	33d	0	25MAR06	15APR06	05MAY06	25MAY06

Legend:

- Bar chart: Early bar
- Bar chart: Progress bar
- Bar chart: Critical bar
- Bar chart: Summary bar
- Symbol: Start milestone point
- Symbol: Finish milestone point

Legend:

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

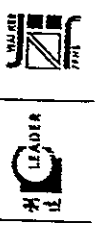
Excavation to Formation Level
 Subsoil Inspection by Structural Engineer
 Blinding
 Steel Fixing for Footing
 Formwork
 Concreting
 Steel Fixing for Walls & Columns
 Formwork
 Concreting
 Remove Formwork
 Backfilling

Erect Propping & Formwork
 Ground Slab Steel Fixing
 Formwork
 Concreting
 Erect Scaffolding
 Walls & Columns Formwork
 Steel Fixing for Walls & Columns
 Formwork
 Concreting
 Remove Formwork & Propping

Erect Propping & Formwork
 Mezzanine Slab Steel Fixing
 Formwork
 Concreting
 Walls & Columns Formwork
 Steel Fixing for Walls & Columns
 Formwork
 Concreting
 Remove Formwork & Propping

Erect Propping & Formwork
 Upper Mezzanine Slab Steel Fixing
 Formwork
 Concreting
 Remove Formwork & Propping

Prepare & Submit Shop Drawings
 Engineer Approval of Shop Drawings
 Procurement of Structural Steel
 Delivery of Structural Steel Materials
 Inspection & Testing



ID	Description	Unit	Qty	Start	Finish	Est. Cost	Actual Cost	Percentage Complete	Remarks
APFTSS0003	Fabrication & Painting of Steelworks	48	330	13JUN06	29MAY06			100%	
APFTSS0700	Delivery of Prefabricated Steelworks	12	330	27JUN06	24JUL06			100%	
APFTSS0800	Erection of Steelworks	30	330	09AUG06	07AUG06			100%	
APFTSS0900	Touch Up Painting	12	330	23AUG06	18SEP06			100%	
Architectural Builders Works and Finishes									
AFTTAB0100	Solid Concrete Block Work Wall	36	360	013APR06	25MAY06			100%	
AFTTAB0200	Internal Wall Tile	24	360	028MAY06	23JUN06			100%	
AFTTAB0300	External Wall Tile	24	330	021SEP06	19OCT06			100%	
AFTTAB0400	Toilet Accessories Installation	24	360	024JUN06	07AUG06			100%	
AFTTAB0500	Floor Tile	24	360	024JUN06	04SEP06			100%	
AFTTAB0600	Roof Cladding	24	330	024AUG06	20SEP06			100%	
AFTTAB0700	Metal Works & Ironmongery Installation	24	330	020OCT06	17NOV06			100%	
Plumbing Works									
AFTPL0100	Plumbing Works	24	360	021AUG06	16SEP06			100%	
E & M Works									
AFTEM0100	Electrical & Mechanical Installations	48	360	018SEP06	14NOV06			100%	

Section 5

Drainage Works

ID	Description	Unit	Qty	Start	Finish	Est. Cost	Actual Cost	Percentage Complete	Remarks
ASRLDW0100	Decide Exact Location of Manholes & Catchpits	1	100	26JUL04	26JUL04			100%	
ASRLDW0160	Hand Over 2x2500 Pipe Upstream for Connection	0	100	20APR05	20APR05			100%	
ASRLDW1100	S413 - S407 (2x2500)	84	100	10SEP04	18JUL05			100%	
ASRLDW1200	F424 to F427 (In Zone ZC)	31	100	10SEP04	12JAN05			100%	
ASRLDW1300	Outlet - S413 (2x2500)	30	100	22NOV04	25MAY05			100%	
ASRLDW2100	S407 - S407A (2x2500)	30	100	03JAN05	18JUL05			100%	
ASRLDW2200	Connection Point for F431 to F428 (In Zone ZC)	30	100	18DEC04	18JUL05			100%	
ASRLDW2300	SL-019a - S413 & gullies	18	100	18JAN05	28APR05			100%	
ASRLDW2400	SL-020a - S412a	12	100	01MAR05	17MAR05			100%	
ASRLDW2500	CP#10 - S412b	12	100	21FEB05	14APR05			100%	
ASRLDW2600	SL-023a - S412a	12	100	01MAR05	09APR05			100%	
ASRLDW3100	S408 - S407 (1800)	12	100	09MAR05	03MAY05			100%	
ASRLDW3200	Penal Interceptor - SL017a & S412	18	100	03MAR05	15JUL05			100%	
ASRLDW3300	Connection Point - SL-020a - S413	18	100	31JAN05	19MAR05			100%	
ASRLDW3400	S407A - Upstream	20	100	05MAY05	19JUL05			100%	
ASRLDW3500	SL-025a - SL-023a & gullies	18	100	07MAR05	17MAY05			100%	
ASRLDW4100	Connection Point to F435	18	100	18DEC04	06APR05			100%	
ASRLDW4200	SL-022a - SL-020a & gullies	18	100	09MAR05	28APR05			100%	
ASRLDW4300	F427 - F428	15	100	10SEP04	08SEP05			100%	
ASRLDW4400	F418a - F411	6	-340	11APR05	20SEP05			100%	
ASRLDW4500	Connection Point - S404 - S408	18	-900	09MAR05	30SEP05			100%	
ASRLDW4600	CP#4 & CP#3 - SL-020a	10		100	02JUL05	24AUG05		100%	
ASRLDW5100	F424 - F422	12		100	06JUL05	28JUL05		100%	
ASRLDW5110	F422 - F421	8		100	06APR05	28JUL05		100%	
ASRLDW5200	SL-001b - S407 & gullies	36	-900	90	27JUL05	17OCT05		100%	
ASRLDW5300	CP#7 & CP#9 - S408	10	-900	80	14JUN05	10OCT05		100%	
ASRLDW5400	S408 - SL-009a	10	-900	40	23AUG05	08OCT05		100%	

Legend

- 100% Early Wk
- 200% Profit bar
- 250% Critical bar
- 300% Summary bar
- 350% Start milestone point
- 400% Finish milestone point

Program Bar

ASRLDW0100
 ASRLDW0160
 ASRLDW1100
 ASRLDW1200
 ASRLDW1300
 ASRLDW2100
 ASRLDW2200
 ASRLDW2300
 ASRLDW2400
 ASRLDW2500
 ASRLDW2600
 ASRLDW3100
 ASRLDW3200
 ASRLDW3300
 ASRLDW3400
 ASRLDW3500
 ASRLDW4100
 ASRLDW4200
 ASRLDW4300
 ASRLDW4400
 ASRLDW4500
 ASRLDW4600
 ASRLDW5100
 ASRLDW5110
 ASRLDW5200
 ASRLDW5300
 ASRLDW5400

Remarks:

- Decide Exact Location of Manholes & Catchpits
- Hand Over 2x2500 Pipe Upstream for Connection
- S413 - S407 (2x2500)
- F424 to F427 (In Zone ZC)
- Outlet - S413 (2x2500)
- S407 - S407A (2x2500)
- Connection Point for F431 to F428 (In Zone ZC)
- SL-019a - S413 & gullies
- SL-020a - S412a
- CP#10 - S412b
- SL-023a - S412a
- S408 - S407 (1800)
- Penal Interceptor - SL017a & S412
- Connection Point - SL-020a - S413
- S407A - Upstream
- SL-025a - SL-023a & gullies
- Connection Point to F435
- SL-022a - SL-020a & gullies
- F427 - F428
- F418a - F411
- Connection Point - S404 - S408
- CP#4 & CP#3 - SL-020a
- F424 - F422
- F422 - F421
- SL-001b - S407 & gullies
- CP#7 & CP#9 - S408
- S408 - SL-009a

Section 5

Drainage Works

Legend

- 100% Early Wk
- 200% Profit bar
- 250% Critical bar
- 300% Summary bar
- 350% Start milestone point
- 400% Finish milestone point

Program Bar

ASRLDW0100
 ASRLDW0160
 ASRLDW1100
 ASRLDW1200
 ASRLDW1300
 ASRLDW2100
 ASRLDW2200
 ASRLDW2300
 ASRLDW2400
 ASRLDW2500
 ASRLDW2600
 ASRLDW3100
 ASRLDW3200
 ASRLDW3300
 ASRLDW3400
 ASRLDW3500
 ASRLDW4100
 ASRLDW4200
 ASRLDW4300
 ASRLDW4400
 ASRLDW4500
 ASRLDW4600
 ASRLDW5100
 ASRLDW5110
 ASRLDW5200
 ASRLDW5300
 ASRLDW5400

Remarks:

- Decide Exact Location of Manholes & Catchpits
- Hand Over 2x2500 Pipe Upstream for Connection
- S413 - S407 (2x2500)
- F424 to F427 (In Zone ZC)
- Outlet - S413 (2x2500)
- S407 - S407A (2x2500)
- Connection Point for F431 to F428 (In Zone ZC)
- SL-019a - S413 & gullies
- SL-020a - S412a
- CP#10 - S412b
- SL-023a - S412a
- S408 - S407 (1800)
- Penal Interceptor - SL017a & S412
- Connection Point - SL-020a - S413
- S407A - Upstream
- SL-025a - SL-023a & gullies
- Connection Point to F435
- SL-022a - SL-020a & gullies
- F427 - F428
- F418a - F411
- Connection Point - S404 - S408
- CP#4 & CP#3 - SL-020a
- F424 - F422
- F422 - F421
- SL-001b - S407 & gullies
- CP#7 & CP#9 - S408
- S408 - SL-009a

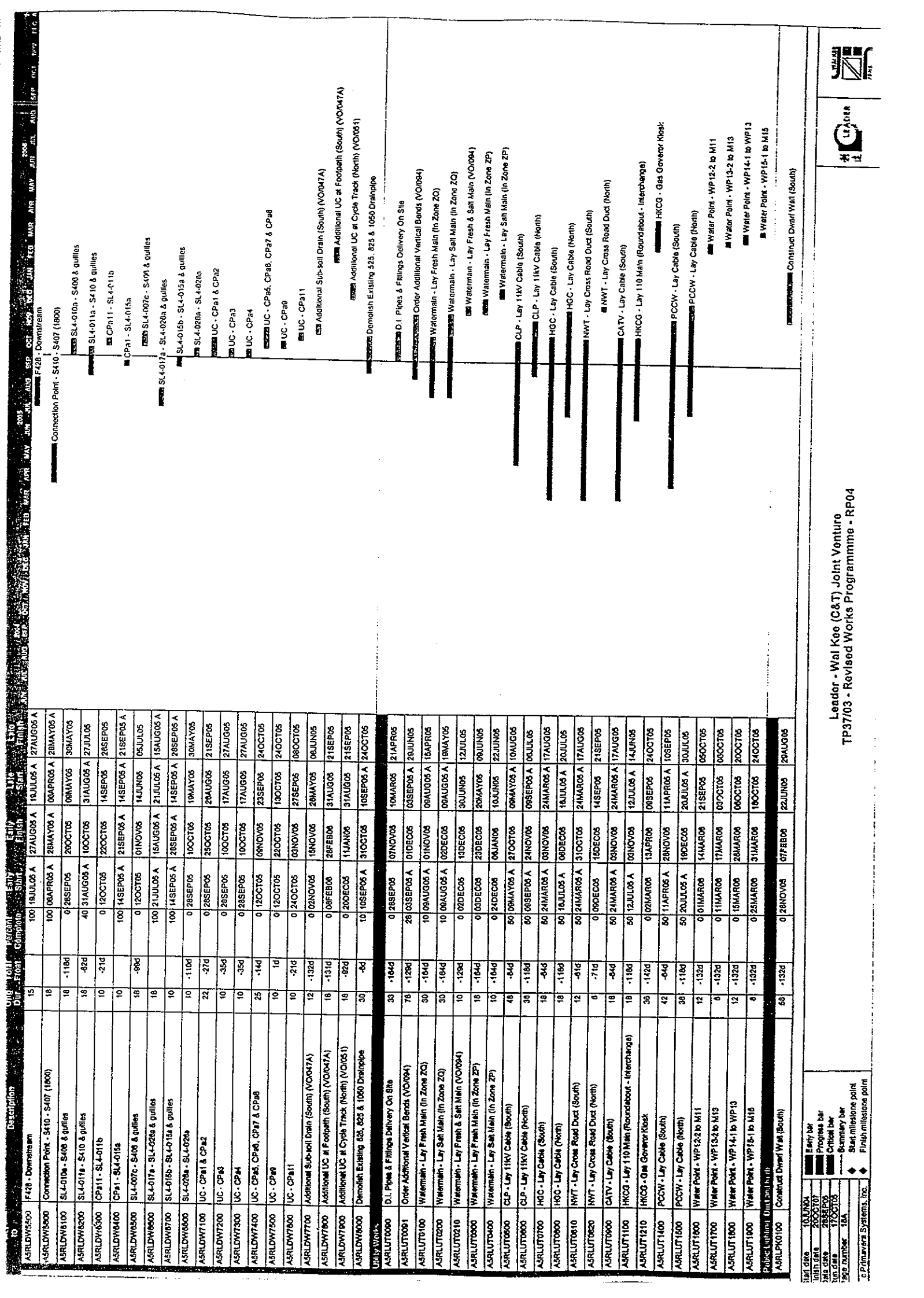
100% Early Wk
 200% Profit bar
 250% Critical bar
 300% Summary bar
 350% Start milestone point
 400% Finish milestone point

Program Bar

ASRLDW0100
 ASRLDW0160
 ASRLDW1100
 ASRLDW1200
 ASRLDW1300
 ASRLDW2100
 ASRLDW2200
 ASRLDW2300
 ASRLDW2400
 ASRLDW2500
 ASRLDW2600
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 ASRLDW4200
 ASRLDW4300
 ASRLDW4400
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 ASRLDW5400

Remarks:

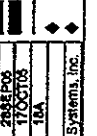
- Decide Exact Location of Manholes & Catchpits
- Hand Over 2x2500 Pipe Upstream for Connection
- S413 - S407 (2x2500)
- F424 to F427 (In Zone ZC)
- Outlet - S413 (2x2500)
- S407 - S407A (2x2500)
- Connection Point for F431 to F428 (In Zone ZC)
- SL-019a - S413 & gullies
- SL-020a - S412a
- CP#10 - S412b
- SL-023a - S412a
- S408 - S407 (1800)
- Penal Interceptor - SL017a & S412
- Connection Point - SL-020a - S413
- S407A - Upstream
- SL-025a - SL-023a & gullies
- Connection Point to F435
- SL-022a - SL-020a & gullies
- F427 - F428
- F418a - F411
- Connection Point - S404 - S408
- CP#4 & CP#3 - SL-020a
- F424 - F422
- F422 - F421
- SL-001b - S407 & gullies
- CP#7 & CP#9 - S408
- S408 - SL-009a



15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
 JAN FEB MAR APR MAY JUN JUL AUG
 2008

ID	Description	Start	Finish	Duration	Start	Finish	Duration
ASRLDW5500	F428 - Downstream	15	15	1	15	15	1
ASRLDW5600	Connection Point - S410 - S407 (1800)	18	18	1	18	18	1
ASRLDW6100	SL4-010a - S408 & gullies	18	-118d	1	18	-118d	1
ASRLDW6200	SL4-011a - S410 & gullies	18	-82d	1	18	-82d	1
ASRLDW6300	CP#11 - SL4-011b	10	-21d	1	10	-21d	1
ASRLDW6400	CP#1 - SL4-015a	10	-89d	1	10	-89d	1
ASRLDW6500	SL4-007c - S408 & gullies	18	-110d	1	18	-110d	1
ASRLDW6600	SL4-017a - SL4-020a & gullies	10	-27d	1	10	-27d	1
ASRLDW6700	SL4-015b - SL4-015a & gullies	22	-35d	1	22	-35d	1
ASRLDW7000	UC - CP#1 & CP#2	10	-35d	1	10	-35d	1
ASRLDW7100	UC - CP#3	10	-35d	1	10	-35d	1
ASRLDW7200	UC - CP#4	25	-14d	1	25	-14d	1
ASRLDW7400	UC - CP#5, CP#6, CP#7 & CP#8	10	-21d	1	10	-21d	1
ASRLDW7500	UC - CP#9	10	-192d	1	10	-192d	1
ASRLDW7600	UC - CP#11	18	-131d	1	18	-131d	1
ASRLDW7700	Additional Sub-soil Drain (South) (VO047A)	18	-82d	1	18	-82d	1
ASRLDW7800	Additional UC at Footpath (South) (VO047A)	30	-6d	1	30	-6d	1
ASRLDW7900	Additional UC at Cycle Track (North) (VO081)	33	-164d	1	33	-164d	1
ASRLDW8000	Demolish Existing 325, 825 & 1050 Drainpipe	78	-126d	1	78	-126d	1
ASRLUT0000	D.I. Pipes & Fittings Delivery On Site	30	-164d	1	30	-164d	1
ASRLUT0001	Order Additional Vertical Bends (VO094)	10	-128d	1	10	-128d	1
ASRLUT0002	Watermain - Lay Fresh Main (in Zone 2C)	10	-128d	1	10	-128d	1
ASRLUT0003	Watermain - Lay Salt Main (in Zone 2C)	10	-128d	1	10	-128d	1
ASRLUT0004	Watermain - Lay Fresh & Salt Main (VO094)	18	-164d	1	18	-164d	1
ASRLUT0005	Watermain - Lay Fresh Main (in Zone 2F)	10	-164d	1	10	-164d	1
ASRLUT0006	Watermain - Lay Salt Main (in Zone 2P)	48	-84d	1	48	-84d	1
ASRLUT0007	Watermain - Lay Salt Main (in Zone 2P)	30	-118d	1	30	-118d	1
ASRLUT0008	CLP - Lay 11kV Cable (South)	18	-44d	1	18	-44d	1
ASRLUT0009	CLP - Lay 11kV Cable (North)	18	-118d	1	18	-118d	1
ASRLUT0010	HGC - Lay Cable (South)	12	-61d	1	12	-61d	1
ASRLUT0011	HGC - Lay Cable (North)	6	-71d	1	6	-71d	1
ASRLUT0012	NWT - Lay Cross Road Duct (South)	18	-64d	1	18	-64d	1
ASRLUT0013	NWT - Lay Cross Road Duct (North)	18	-118d	1	18	-118d	1
ASRLUT0014	CATV - Lay Cable (South)	18	-132d	1	18	-132d	1
ASRLUT0015	HKCG - Lay 110 Main (Roundabout - Interchange)	30	-142d	1	30	-142d	1
ASRLUT0016	HKCG - Gas Governor Masts	42	-64d	1	42	-64d	1
ASRLUT0017	PCCW - Lay Cable (South)	30	-118d	1	30	-118d	1
ASRLUT0018	PCCW - Lay Cable (North)	12	-132d	1	12	-132d	1
ASRLUT0019	Water Point - WP12-2 to M11	6	-132d	1	6	-132d	1
ASRLUT0020	Water Point - WP13-2 to M13	12	-132d	1	12	-132d	1
ASRLUT0021	Water Point - WP14-1 to WP13	6	-132d	1	6	-132d	1
ASRLUT0022	Water Point - WP15-1 to M15	6	-132d	1	6	-132d	1
ASRLPK0100	Construct Dwarf Wall (South)	58	-132d	1	58	-132d	1

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



Ad ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
ASRLP0000	Construct Divert Way (North)	12	-128d	0	18JAN06	03FEB06	16AUG05	29AUG05
ASRLP0001	Lay Kerb (South)	10	-182d	0	18NOV05	26NOV05	06JUN05	21JUN05
ASRLP0002	Lay Kerb (North)	22	-184d	0	07JAN06	03FEB06	23JUN05	18JUL05
ASRLP0003	Lay Kerb (Parking Area)	20	-35d	0	12OCT05	03NOV05	28AUG05	21SEP05
ASRLP0004	Drainpit & Duct (South)	22	-71d	0	18NOV05	10DEC05	22AUG05	15SEP05
ASRLP0005	Drainpit & Duct (North)	22	-128d	0	21JAN06	17FEB06	22AUG05	15SEP05
ASRLP0006	Drainpit & Duct (CT)	20	-32d	0	18OCT05	18NOV05	07SEP05	08OCT05
Roads and Footpath								
ASRLP0007	Road Pavement, Cycle Track & Footpath	68	-184d	0	04FEB06	22APR06	20JUL05	09OCT05
ASRLP0008	Construct Temporary Cycle Track (Phase 1)	6		100	16APR05 A	16APR05 A	16APR05 A	20APR05 A
ASRLP0009	Complete Outstanding Drainage & Road Pavement	8	-58d	0	24DEC05	02JAN06	18OCT05	24OCT05
ASRLP0010	Removal of Temporary Cycle Track	3	-58d	0	21DEC05	23DEC05	14OCT05	17OCT05
ASRLP0011	Possess Additional Works Area	0		100	21APR05 A	21APR05 A		
ASRLP0012	Construct Temporary Cycle Track (Phase 2)	10		100	22APR05 A	11MAY05 A	22APR05 A	11MAY05 A
Erect Light Works								
ASRLP0013	Erect Light Post & E&M Works	30	-128d	0	18FEB06	24MAR06	16SEP05	24OCT05
Road Maintenance - Traffic Signs and Markings								
ASRLM0000	Erect Signage	12	-88d	0	04FEB06	17FEB06	10OCT05	24OCT05
ASRLM0001	Apply Road Marking	14	-164d	0	24APR06	10MAY06	07OCT05	24OCT05
ASRLM0002	Construct Fencing	30	-114d	0	04FEB06	10MAR06	16SEP05	24OCT05
Section B								
Cycle Track								
Drainage Works								
ASCTDW0000	Decide Exact Location of Manholes & Catchpits	1		100	27SEP04 A	27SEP04 A	27SEP04 A	27SEP04 A
ASCTDW0001	S774 - Existing Box Culvert (in ZJ)	23	-120d	80	03JUL05 A	04OCT05	08JUL05 A	11MAY05
ASCTDW0002	S773 - S774 (in ZJ)	15	-120d	80	13JUL05 A	04OCT05	13JUL05 A	11MAY05
ASCTDW0003	S784 - S780 (in ZJ)	34		100	28SEP04 A	23DEC04 A	28SEP04 A	23DEC04 A
ASCTDW0004	S769 - S768 (in ZG1)	10	-119d	80	03JUL05 A	03OCT05	03JUL05 A	11MAY05
ASCTDW0005	S765 - S768 (in ZG1)	25	-121d	80	20APR05 A	28SEP05	20APR05 A	08MAY05
ASCTDW0006	S765 - S768 (in Remaining ZG1)	24		100	03AUG05 A	16AUG05 A	03AUG05 A	15AUG05 A
ASCTDW0007	Sewerage System (in ZJ)	42		100	10NOV04 A	30DEC04 A	10NOV04 A	30DEC04 A
ASCTDW0008	F410 - F414 (in ZG1)	24		100	21FEB05 A	09SEP05 A	21FEB05 A	08SEP05 A
ASCTDW0009	F408 - F410 (in Remaining ZG1)	24		100	02APR05 A	27AUG05 A	02APR05 A	27AUG05 A
ASCTDW0010	F409 - TM02	16		100	16SEP05 A	27SEP05 A	16SEP05 A	27SEP05 A
Utility Works								
ASCTUT0000	D.I. Pipes & Fillings Delivery On Site	30	-131d	85	28JUN05 A	04OCT05	28JUN05 A	27APR05
ASCTUT0001	Watermain - Lay Fresh & Salt Main (in ZJ, South)	22	-131d	80	15AUG05 A	03OCT05	15AUG05 A	28APR05
ASCTUT0002	Watermain - Lay Fresh & Salt Main (in ZJ, North)	22	-131d	0	04OCT05	28OCT05	27APR05	24MAY05
ASCTUT0003	Watermain - Lay Fresh & Salt Main (in ZG1)	14	-131d	0	31OCT05	18NOV05	28MAY05	08JUN05
ASCTUT0004	CLP - Lay 132kV Cable (in ZJ, South)	34		100	17DEC04 A	12JAN05 A	17DEC04 A	12JAN05 A
ASCTUT0005	CLP - Lay 132kV Cable (in ZJ, North)	21	-120d	0	06OCT05	28OCT05	12MAY05	06JUN05
ASCTUT0006	CLP - Lay 132kV Cable (in ZG1)	22	-121d	0	30SEP05	27OCT05	07MAY05	02JUN05
ASCTUT0007	CLP - Lay 132kV Cable (in Remaining ZG1)	22		100	10SEP05 A	13SEP05 A	10SEP05 A	13SEP05 A
ASCTUT0008	CLP - Lay 11kV Cable (in ZJ, South)	17		100	28FEB05 A	14MAR05 A	20FEB05 A	14MAR05 A
ASCTUT0009	CLP - Lay 11kV Cable (in ZJ, North)	12	-120d	0	20OCT05	08NOV05	02JUN05	10JUN05
ASCTUT0010	CLP - Lay 11kV Cable (in ZG1)	12	-121d	0	21OCT05	03NOV05	27MAY05	03JUN05
ASCTUT0011	CLP - 11kV Cable (in Remaining ZG1)	12	-103d	0	28SEP05	13OCT05	27MAY05	03JUN05

Job ID	Description	Unit	Qty	Cost	Start	Finish	Status
ATLCHS0440	Taking Up of Existing Underlayer, Below +2.5	2	-1520	0	07NOV05	06JUN05	06JUN05
ATLCHS0600	Taking Up of Existing Rubble, Below +2.5	16	-1580	0	19NOV05	02DEC05	10JUN05
ATLCHS0630	Placing Leveling Stone	23	-1560	0	03DEC05	29DEC05	20JUL05
ATLCHS0900	Block Wall Construction	31	-1580	0	20DEC05	25JAN06	20AUG05
ATLCHS0700	Backfill Rubble Behind	10	-1580	0	26JAN06	04FEB06	30AUG05
ATLCHS0800	Reinstate 3200 Dia. Concrete Pipe	14	-1580	0	09FEB06	22FEB06	13SEP05
ATLCHS0900	Fabrication of Box Culvert Outfalls	70	-1040	0	11DEC05	22FEB06	06NOV05
ATLCHS1000	Install Box Culvert Outfalls	12	-1040	0	23FEB06	06MAR06	18NOV05
ATLCHS1100	Install Remaining Blocks for Both Side Outfall	4	-1040	0	07MAR06	10MAR06	22NOV05
ATLCHS1200	Reinstate Armour & Underlayer	10	-1040	0	11MAR06	20MAR06	02DEC05
Waterproof Promenade							
Pump House Rehabilitation							
ATWPHH0100	Construct Infiltration Pump House	48	-130	0	22NOV05	18JAN06	07NOV05
Drainage Works							
ATWPDW0100	Decide Exact Location of Manholes & Catchpits	1	100	26JUL04	26JUL04	26JUL04	26JUL04
ATWPDW0200	S708 - S714	50	-960	90	13OCT04	04OCT05	18OCT04
ATWPDW0300	S701 - S706	40	-1000	100	13OCT04	14DEC04	13OCT04
ATWPDW0400	S714 - Existing Box Culvert	30	-1230	0	03FEB06	06MAR06	06SEP05
ATWPDW0500	F901 - F902 (TTA No. 10) Partially Aborted	18	-1440	100	25FEB05	24JUN05	28FEB05
ATWPDW0600	F902 - F903 (TTA No. 11) Aborted	34	-1440	100	10MAY05	24JUN05	10MAY05
ATWPDW0700	F903 - F904 (TTA No. 12)	16	-1440	100	08APR05	06MAY05	08APR05
ATWPDW0720	F901 - F902 (TTA No. 48) (VO0305E)	12	-1440	0	08OCT05	15OCT05	18APR05
ATWPDW0740	F901 - F902 (TTA No. 48) (VO0305E)	12	-1440	0	01NOV05	14NOV05	10MAY05
ATWPDW0760	F901 - F902 (TTA No. 50) (VO0305E)	18	-1440	0	30NOV05	20DEC05	08JUN05
ATWPDW0780	F902 - F903 (TTA No. 51) (VO0305E)	24	-1440	0	22DEC05	20JAN06	04JUL05
ATWPDW0800	F904 - Existing Manhole	26	-130	100	04APR05	18JUN05	04APR05
ATWPDW0900	S770 - S773 - S771 (VO073)	25	-130	0	28SEP05	29OCT05	12SEP05
ATWPDW0920	S773 - Ext. Manhole (TTA No. 48) (VO073)	18	-1440	0	08OCT05	28OCT05	18APR05
ATWPDW0940	S773 - Ext. Manhole (TTA No. 48) (VO073)	18	-1000	0	01NOV05	21NOV05	18MAY05
ATWPDW0960	S773 - Ext. Manhole (TTA No. 50) (VO073)	24	-1250	0	30NOV05	20DEC05	04JUL05
ATWPDW1000	CP102 - CP104 (In ZU)	20	-130	0	29OCT05	21NOV05	11OCT05
ATWPDW1050	Ext. MH - MH-3d - F901 (VO0584)	20	-780	0	09DEC05	03JAN06	06SEP05
ATWPDW1100	S716 - Existing Box Culvert	22	-1320	0	23FEB06	20MAR06	14SEP05
ATWPDW1200	225 Dia. Perforated Drain (In ZS S. End - 200m)	26	-820	0	10NOV05	02DEC05	27JUL05
ATWPDW1250	225 Dia. Perforated Drain (In ZS 200m - 400m)	26	-900	0	23NOV05	21DEC05	27JUL05
ATWPDW1300	225 Dia. Perforated Drain (In ZS 400m - N. End)	12	-1320	0	14APR06	27APR06	05NOV05
ATWPDW1500	225HR & Catchpit with 2000L along Parapet Wall	50	-820	0	04MAR06	03MAY06	11NOV05
ATWPDW1600	225UC (In ZU)	24	-470	0	23NOV05	22DEC05	20SEP05
ATWPDW1700	300UC (In ZU)	25	-470	0	23DEC05	23JAN06	28NOV05
ATWPDW1800	225Dia. Perforated Drain (In ZU)	21	-480	0	22NOV05	15DEC05	27SEP05
ATWPDW1900	300 CUC (In ZU)	18	-350	0	29OCT05	18NOV05	09DEC05
ATWPDW2000	225 Dia. Perforated Drain (In ZU)	18	-780	0	04JAN06	24JAN06	30SEP05
Utility Works							
ATWPUT0090	D.I. Pipes & Fittings Delivery On Site	30	-650	45	27APR05	18OCT05	27APR05
ATWPUT0091	Order Additional Valve & Band (VO090)	76	-1200	22	08SEP05	07DEC05	08SEP05
ATWPUT0100	Watermain - Lay 5m Main (TTA No. 10) Aborted	10	-100	100	18APR05	18APR05	18APR05

1 Decide Exact Location of Manholes & Catchpits
 S701 - S706
 S708 - S714
 F901 - F902 (TTA No. 10) Partially Aborted
 F902 - F903 (TTA No. 11) Aborted
 F903 - F904 (TTA No. 12)
 F901 - F902 (TTA No. 48) (VO0305E)
 F901 - F902 (TTA No. 48) (VO0305E)
 F902 - F903 (TTA No. 50) (VO0305E)
 F902 - F903 (TTA No. 51) (VO0305E)
 F904 - Existing Manhole
 S770 - S773 - S771 (VO073)
 S773 - Ext. Manhole (TTA No. 48) (VO073)
 S773 - Ext. Manhole (TTA No. 48) (VO073)
 S773 - Ext. Manhole (TTA No. 50) (VO073)
 CP102 - CP104 (In ZU)
 Ext. MH - MH-3d - F901 (VO0584)
 S716 - Existing Box Culvert
 225 Dia. Perforated Drain (In ZS S. End - 200m)
 225 Dia. Perforated Drain (In ZS 200m - 400m)
 225 Dia. Perforated Drain (In ZS 400m - N. End)
 225HR & Catchpit with 2000L along Parapet Wall
 225UC (In ZU)
 300UC (In ZU)
 225Dia. Perforated Drain (In ZU)
 300 CUC (In ZU)
 225 Dia. Perforated Drain (In ZU)
 D.I. Pipes & Fittings Delivery On Site
 Order Additional Valve & Band (VO090)
 Watermain - Lay 5m Main (TTA No. 10) Aborted

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

G. Primavera Systems, Inc.
 Leader - Wai Keo (C&T) Joint Venture
 TP37/03 - Revised Works Programme - RP04

ID	Description	Dur	Float	Complete	Start	Finish	Start	Finish	
ATWPHL0200	Watermain - Lay S&W Main (TTA No. 11) Aborted	34		100	10MAY05 A	24JUN05 A	10MAY05 A	24JUN05 A	
ATWPHL0300	Watermain - S&W Main (TTA No. 48) (VO083A)	12	-1440	0	17OCT05	28OCT05	23APR05	07MAY05	
ATWPHL0350	Watermain - S&W Main (TTA No. 49) (VO083A)	12	-1440	0	15NOV05	28NOV05	25MAY05	07JUN05	
ATWPHL0400	Watermain - S&W Main (TTA No. 50) (VO083A)	24	-1250	0	10NOV05	28DEC05	04JUL05	30JUL05	
ATWPHL0500	CLP - Lay LV Cable	12	-500	90	08AUG05 A	28SEP05	08AUG05 A	20JUL05	
ATWPHL0600	PCCW - Lay Cable	55	-880	0	21NOV05	28JAN06	31AUG05	05NOV05	
ATWPHL0700	PCCW - Lay Cable (Landscape Node P3)	12	-750	0	14APR06	27APR06	06JAN06	21JAN06	
ATWPHL0800	Watermain (in ZU)	18	-830	0	31OCT05	19NOV05	11JUL05	30JUL05	
ATWPHL0900	Issue Allocation Warrant to WSD (VO088)	24	-780	0	28SEP05	27OCT05	27JUN05	25JUL05	
ATWPHL1000	Relocation of Fire Hydrant in ZU by WSD (VO088)	24	-780	0	28OCT05	24NOV05	26JUL05	22AUG05	
ATWPHL1100	HKCG - 315kV Diversion at SP Road (Additional)	15		100	11JUL05 A	27JUL05 A	11JUL05 A	27JUL05 A	
ATWPHL1200	CLP - 132kV Diversion at SP Road (Additional)	56		100	08AUG05 A	16AUG05 A	08AUG05 A	16AUG05 A	
Public Lighting (in ZU)									
ATWPHL0100	Public Lighting (in ZU)	90	-420	0	08DEC05	21FEB06	21OCT05	31DEC05	
ATWPHL0200	Public Lighting (in ZS)	60	-880	0	18FEB06	28APR06	31OCT05	10JAN06	
Roads and Paving									
ATWPHL0100	Lay Paving Block (in ZU)	30	-420	0	22FEB06	28MAR06	02JAN06	07FEB06	
ATWPHL0200	Lay Paving Block (in ZS)	60	-830	0	28MAR06	08JUN06	05DEC05	10FEB06	
Finishing Works (in ZU)									
ATWPHL0100	Finishing Works (in ZU)	30	-170	0	07FEB06	10MAR06	16JAN06	21FEB06	
ATWPHL0200	Finishing Works (in ZS)	55	-680	0	27FEB06	03MAY06	10DEC05	21FEB06	
E&M Works									
ATWPHL0500	Irrigation System (in ZU)	30	-780	0	08APR06	13MAY06	04JAN06	08FEB06	
ATWPHL0600	Irrigation System (in ZS)	32	-920	0	22APR06	30MAY06	02JAN06	09FEB06	
ATWPHL0700	E&M Works	30	-780	0	10APR06	18MAY06	04JAN06	08FEB06	
Testing and Commissioning									
ATWPHL0100	Testing & Commissioning	30	-920	0	08MAY06	12JUN06	16JAN06	21FEB06	
Road Markings - Traffic Signs and Fencing									
ATWPHL0300	Erect Signage	30	-880	0	04MAY06	06JUN06	16JAN06	21FEB06	
ATWPHL0400	Apply Road Marking	12	-930	0	30MAY06	13JUN06	08FEB06	21FEB06	
Landscape Elements									
ATWPHL0100	Planter Wall (in ZS, South End - 100m)	20	-820	0	10OCT05	02NOV05	04JUL05	28JUL05	
ATWPHL0200	Planter Wall (in ZS, 100 - 200m)	20	-820	85	18APR05 A	08OCT05	18APR05 A	02JUL05	
ATWPHL0300	Planter Wall (in ZS, 200 - 300m)	20	-860	0	28OCT05	21NOV05	04JUL05	28JUL05	
ATWPHL0400	Planter Wall (in ZS, 300 - 400m)	20	-860	0	05OCT05	28OCT05	08JUN05	02JUL05	
ATWPHL0500	Planter Wall (in ZS, 400 - North End)	20	-1320	0	21MAR06	13APR06	13OCT05	04NOV05	
ATWPHL0600	Planter Wall (in ZU)	66	-780	50	21MAY05 A	08DEC05	21MAY05 A	05SEP05	
ATWPHL0650	Fill Rock to Parapet Wall Formation (VO088)	30	-930	70	16JUN05 A	08OCT05	16JUN05 A	18JUN05	
ATWPHL0700	Parapet Wall along Seawall (500m)	120	-930	0	10OCT05	03MAR06	20JUN05	18NOV05	
ATWPHL0750	Parapet Wall along Landscape Node P3 (100m)	24	-880	0	21MAR06	18APR06	08DEC05	02JAN06	
ATWPHL0800	Construct Curve Trills (in ZU)	60	-170	0	28SEP05	08DEC05	07SEP05	18NOV05	
ATWPHL0900	Construct Perseps (in ZU)	47	-170	0	08DEC05	04FEB06	18NOV05	14JAN06	
ATWPHL1000	Construct Perseps (in ZS)	24	-800	0	27JAN06	28FEB06	07NOV05	03DEC05	
ATWPHL1100	Water Point WP28-1 to 28-6 (in ZU)	30	-780	0	03MAR06	07APR06	28NOV05	03JAN06	
ATWPHL1200	Water Point WP27-1 to 27-4 (in ZS)	15	-880	0	22DEC05	10JAN06	26AUG05	12SEP05	
ATWPHL1300	Water Point WP26-1 to 26-2 (in ZS)	15	-730	0	11JAN06	27JAN06	18OCT05	01NOV05	
ATWPHL1400	Water Point WP25-1 to 25-4 (in ZS)	15	-1320	0	28APR06	16MAY06	18NOV05	08DEC05	

Legend:
 Start date: 10JUN04
 Finish date: 20OCT05
 Duration: 28SEP05
 Run date: 17OCT05
 Page number: 2/2

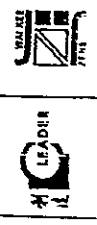
Legend:
 Empty bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point

LEADER
 WALKER
 JTM

ID	Description	Start	Finish	Duration	Status	Progress	Milestones
ABLANS0100	Drilling (Two Drills)	28DEC04 A	04OCT04 A	10	100	23SEP04 A	04OCT04 A
ABLANS0200	Taking Up of Existing Armour to +2.5	28DEC04 A	30OCT04 A	3	100	28OCT04 A	30OCT04 A
ABLANS0220	Taking Up of Existing Underlayer to +2.5	01NOV04 A	02NOV04 A	1	100	01NOV04 A	02NOV04 A
ABLANS0240	Taking Up of Existing Rubble to +2.5	03NOV04 A	08MAR05 A	36	100	03NOV04 A	08MAR05 A
ABLANS0260	Demolish Existing Outfall Units	13NOV04 A	18NOV04 A	5	100	13NOV04 A	18NOV04 A
ABLANS0310	DSD Approval of Removal of 5 Cells Culvert	20NOV04 A	08MAR05 A	1	100	20NOV04 A	08MAR05 A
ABLANS0400	Taking Up Existing 5 Cells Box Culvert Units	10MAR05 A	22MAR05 A	12	100	10MAR05 A	22MAR05 A
ABLANS0420	Taking Up of Existing Armour Below +2.5	13DEC04 A	22JAN05 A	6	100	13DEC04 A	22JAN05 A
ABLANS0440	Taking Up of Existing Underlayer Below +2.5	17DEC04 A	08APR05 A	3	100	17DEC04 A	08APR05 A
ABLANS0500	Taking Up of Existing Rubble Below +2.5	14JAN05 A	22APR05 A	23	100	14JAN05 A	22APR05 A
ABLANS0540	Placing Leveling Stone	23APR05 A	16MAY05 A	25	100	23APR05 A	16MAY05 A
ABLANS0600	Block Wall Construction	18MAY05 A	12JUN05 A	51	100	18MAY05 A	12JUN05 A
ABLANS0700	Backfill Rubble Behind	15JUN05 A	02OCT05	14	59	15JUN05 A	02OCT05
ABLANS0800	Reinstate 5 Cells Box Culvert Units	02JUL05 A	07OCT05	18	71	02JUL05 A	07OCT05
ABLANS0900	Fabrication of 5 Cells Outfall Units	22NOV05	27DEC05	70	23	22NOV05	27DEC05
ABLANS1000	Install 5 Cells Outfall Units	04DEC05	16DEC05	12	230	04DEC05	16DEC05
ABLANS1100	Install Remaining Blocks for Both Side Outfall	05DEC05	20DEC05	4	234	05DEC05	20DEC05
ABLANS1200	Reinstate Armour & Underlayer	06DEC05	16DEC05	10	234	06DEC05	16DEC05
Landscape Works No. 2							
Landscape Works Structure							
ABLANS0100	Drilling (Two Drills)	27SEP04 A	16OCT04 A	10	100	27SEP04 A	16OCT04 A
ABLANS0200	Taking Up of Existing Armour to +2.5	08NOV04 A	09NOV04 A	3	100	08NOV04 A	09NOV04 A
ABLANS0210	Taking Up of Existing Underlayer to +2.5	12NOV04 A	13NOV04 A	2	100	12NOV04 A	13NOV04 A
ABLANS0220	Taking Up of Existing Rubble to +2.5	14NOV04 A	11JAN05 A	20	100	14NOV04 A	11JAN05 A
ABLANS0300	Demolish Existing Outfall Units	17NOV04 A	20NOV04 A	5	100	17NOV04 A	20NOV04 A
ABLANS0400	Taking Up Existing 2500 Dia. Concrete Pipe	12APR05 A	23JUN05 A	10	100	12APR05 A	23JUN05 A
ABLANS0410	Taking Up of Existing Armour Below +2.5	09DEC04 A	09DEC04 A	4	100	09DEC04 A	09DEC04 A
ABLANS0420	Taking Up of Existing Underlayer Below +2.5	11JAN05 A	11JAN05 A	3	100	11JAN05 A	11JAN05 A
ABLANS0430	Taking Up of Existing Rubble Below +2.5	30SEP04 A	25AUG05 A	20	100	30SEP04 A	25AUG05 A
ABLANS0530	Placing Leveling Stone	01SEP05 A	20SEP05 A	40	100	01SEP05 A	20SEP05 A
ABLANS0600	Block Wall Construction (Stage 1)	21SEP05 A	09OCT05	30	-590	21SEP05 A	09OCT05
ABLANS0610	Block Wall Construction (Stage 2)	17OCT05	19NOV05	30	240	17OCT05	19NOV05
ABLANS0700	Backfill Rubble Behind (Stage 1)	10OCT05	18OCT05	7	-590	10OCT05	18OCT05
ABLANS0710	Backfill Rubble Behind (Stage 2)	02NOV05	29NOV05	7	240	02NOV05	29NOV05
ABLANS0800	Reinstate 2500 Dia. Pipe Culvert	02NOV05	12DEC05	14	300	02NOV05	12DEC05
ABLANS0900	Fabrication of Box Culvert Outfall	04OCT05	12DEC05	70	300	04OCT05	12DEC05
ABLANS1000	Install Box Culvert Outfall	13DEC05	24JAN06	12	300	13DEC05	24JAN06
ABLANS1100	Install Remaining Blocks for Both Side Outfall	20DEC05	28JAN06	4	320	20DEC05	28JAN06
ABLANS1200	Reinstate Armour & Underlayer	02DEC05	07JAN06	10	320	02DEC05	07JAN06
ABLANS1210	Diversion of Ext. Cycle Track Pavement (Phase 2)	28MAY05 A	20MAY05 A	1	100	28MAY05 A	20MAY05 A
ABLANS1300	Removal of Ext. Cycle Track Pavement (Phase 2)	30MAY05 A	11JUN05 A	4	100	30MAY05 A	11JUN05 A
ABLANS1400	Take Up / Divert Ext. Utility Services (Phase 2)	30MAY05 A	06JUN05 A	12	100	30MAY05 A	06JUN05 A

Milestones: 28DEC04 A, 02NOV05, 06NOV05
 Legend:
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

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Item ID	Description	Qty	Total Qty	Percent Complete	Start	Finish	Start	Finish
AP.SL.W1000	Concrete Shelter Roof	24	560	0	14JUL06	10AUG06	16SEP06	16OCT06
AP.SL.W1400	Public Lighting	8	560	0	11AUG06	19AUG06	17OCT06	23OCT06
AP.SL.W1500	Rubber, Step & Land Step	18	560	0	21AUG06	06SEP06	26OCT06	16NOV06
AP.SL.W1600	Surface Mounted Seats	18	560	0	11SEP06	30SEP06	17NOV06	07DEC06
AP.SL.W1700	Contract Inlets Concrete Paving	18	560	0	02OCT06	23OCT06	08DEC06	28DEC06

Section 10

Remainder Works

Miscellaneous works

BOR.WAV.0100	EI to Demolish HY/80/02 CRE Office	1	1076	0	03MAR06	03MAR06	11JUL06	11JUL06
BOR.WAV.0200	Demolish HY/80/02 CRE Office (P1)	30	1076	0	25MAR06	29APR06	02AUG06	05SEP06
BOR.WAV.0300	EI to Demolish HY/80/02 Contractor's Office	1	100	100	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A
BOR.WAV.0400	Demolish HY/80/02 Contractor's Office (P1)	30	100	100	21MAY06 A	27MAY06 A	21MAY06 A	27MAY06 A
BOR.WAV.0500	EI to Remove Run-in & Reinstate FP/CT	1	1290	0	02MAY06	02MAY06	02OCT06	02OCT06
BOR.WAV.0600	Remove Run-in & Reinstate FP/CT(P1)	18	1114	0	15JUN06	06JUL06	25OCT06	15NOV06
BOR.WAV.0700	EI to Demolish Existing Paving	1	1076	0	02MAY06	02MAY06	06SEP06	06SEP06
BOR.WAV.0800	Demolish Existing Paving (P1)	18	1076	0	24MAY06	14JUN06	20SEP06	19OCT06
BOR.WAV.0900	EI to Fencing Around LO Site	1	1114	0	07JUL06	07JUL06	18NOV06	18NOV06
BOR.WAV.1000	Fencing Around LO Site (P1)	18	1114	0	28JUL06	18AUG06	08DEC06	28DEC06

EI to Demolish HY/80/02 Contractor's Office (P1)

EI to Demolish HY/80/02 Contractor's Office

EI to Remove Run-in & Reinstate FP/CT

Remove Run-in & Reinstate FP/CT(P1)

EI to Demolish Existing Paving

Demolish Existing Paving (P1)

EI to Fencing Around LO Site

Fencing Around LO Site (P1)

Section 11

Area 8A7, 8A11B & 8A14

Limnication Siteworks

B1.AA.SL.0100	Soil Mix (Section 5)	24	-132d	0	09FEB06	07MAR06	30AUG06	27SEP06
B1.AA.SL.0200	Soil Mix (in ZS, South End - 100m)	10	-87d	0	03DEC05	14DEC05	13SEP06	24SEP06
B1.AA.SL.0300	Soil Mix (in ZS, 100 - 200m)	10	-86d	0	11JAN06	21JAN06	13SEP06	24SEP06
B1.AA.SL.0400	Soil Mix (in ZS, 200 - 300m)	10	-86d	0	11JAN06	21JAN06	02NOV05	12NOV05
B1.AA.SL.0500	Soil Mix (in ZS, 300 - 400m)	10	-75d	0	28JAN06	10FEB06	02NOV05	12NOV05
B1.AA.SL.0600	Soil Mix (in ZS, 400 - North End)	10	-132d	0	17MAY06	27MAY06	07DEC05	17DEC05
B1.AA.SL.0700	Soil Mix (in ZU, 300m)	30	-76d	0	25JAN06	02MAR06	24OCT05	28NOV05
B1.AA.SL.0800	Planting Works	90	-132d	0	06MAR06	31JUN06	28SEP05	12JAN06
B1.AA.SL.0900	Groundcovers Works	50	-132d	0	29MAY06	27JUL06	19DEC05	18FEB06
B1.AA.SL.1000	Root Barrier (ZS, 100m - 200m) (VO/065A)	12	-76d	0	09DEC05	16DEC05	30AUG05	12SEP05
B1.AA.SL.1100	Root Barrier (ZS, 200m - 300m) (VO/065A)	12	-55d	0	22DEC05	06JAN06	19OCT05	01NOV05
B1.AA.SL.1200	Root Barrier (ZS, 300m - 400m) (VO/065A)	12	-55d	0	22DEC05	06JAN06	19OCT05	01NOV05
B1.AA.SL.1300	Root Barrier (ZS, 400m - N. End) (VO/065A)	2	-119d	0	26APR06	26APR06	05DEC05	06DEC05

Soil Mix (Section 5)

Soil Mix (in ZS, South End - 100m)

Soil Mix (in ZS, 100 - 200m)

Soil Mix (in ZS, 200 - 300m)

Soil Mix (in ZS, 300 - 400m)

Soil Mix (in ZU, 300m)

Planting Works

Groundcovers Works

Root Barrier (ZS, 100m - 200m) (VO/065A)

Root Barrier (ZS, 200m - 300m) (VO/065A)

Root Barrier (ZS, 300m - 400m) (VO/065A)

Root Barrier (ZS, 400m - N. End) (VO/065A)

Section 12

Area 8A7, 8A10, 8A11A, 8A12 & 8A13

Limnication Siteworks

B2.ABSL.0100	Soil Mix (in ZR, 395m)	47	18d	0	22APR06	17JUN06	18MAY06	10JUL06
B2.ABSL.0200	Soil Mix (in ZK, 180m)	24	28d	0	19APR06	17MAY06	23MAY06	20JUN06
B2.ABSL.0300	Soil Mix (in ZJ, 65m)	12	37d	0	21MAR06	07APR06	09MAY06	22MAY06
B2.ABSL.0400	Soil Mix (in ZJ, 50m)	7	37d	0	19MAR06	23MAR06	29APR06	09MAY06
B2.ABSL.0500	Soil Mix (ZJ - Landscape Node 1 South, 200m)	30	18d	0	25MAR06	29APR06	17APR06	22MAY06
B2.ABSL.0600	Soil Mix (ZM, ZL1, ZJ)	71	16d	0	08FEB06	03MAY06	27FEB06	22MAY06
B2.ABSL.0700	Planting Works	90	16d	0	04MAY06	18AUG06	23MAY06	06SEP06
B2.ABSL.0800	Groundcovers Works	50	16d	0	19AUG06	17OCT06	07SEP06	04NOV06
B2.ABSL.0900	Root Barrier (in ZM) (VO/065)	12	22d	0	16JAN06	20JAN06	13FEB06	25FEB06
B2.ABSL.1000	Root Barrier (in ZR) (VO/065)	2	34d	0	31MAR06	01APR06	12MAY06	13MAY06

Soil Mix (in ZR, 395m)

Soil Mix (in ZK, 180m)

Soil Mix (in ZJ, 65m)

Soil Mix (in ZJ, 50m)

Soil Mix (ZJ - Landscape Node 1 South, 200m)

Soil Mix (ZM, ZL1, ZJ)

Planting Works

Groundcovers Works

Root Barrier (in ZM) (VO/065)

Root Barrier (in ZR) (VO/065)

EI to Demolish HY/80/02 CRE Office

Demolish HY/80/02 CRE Office (P1)

EI to Remove Run-in & Reinstate FP/CT

Remove Run-in & Reinstate FP/CT(P1)

EI to Demolish Existing Paving

Demolish Existing Paving (P1)

EI to Fencing Around LO Site

Fencing Around LO Site (P1)

Soil Mix (Section 5)

Soil Mix (in ZS, South End - 100m)

Soil Mix (in ZS, 100 - 200m)

Soil Mix (in ZS, 200 - 300m)

Soil Mix (in ZS, 300 - 400m)

Soil Mix (in ZU, 300m)

Planting Works

Groundcovers Works

Root Barrier (ZS, 100m - 200m) (VO/065A)

Root Barrier (ZS, 200m - 300m) (VO/065A)

Root Barrier (ZS, 300m - 400m) (VO/065A)

Root Barrier (ZS, 400m - N. End) (VO/065A)

Soil Mix (in ZR, 395m)

Soil Mix (in ZK, 180m)

Soil Mix (in ZJ, 65m)

Soil Mix (in ZJ, 50m)

Soil Mix (ZJ - Landscape Node 1 South, 200m)

Soil Mix (ZM, ZL1, ZJ)

Planting Works

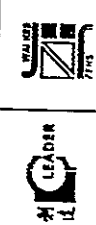
Groundcovers Works

Root Barrier (in ZM) (VO/065)

Root Barrier (in ZR) (VO/065)

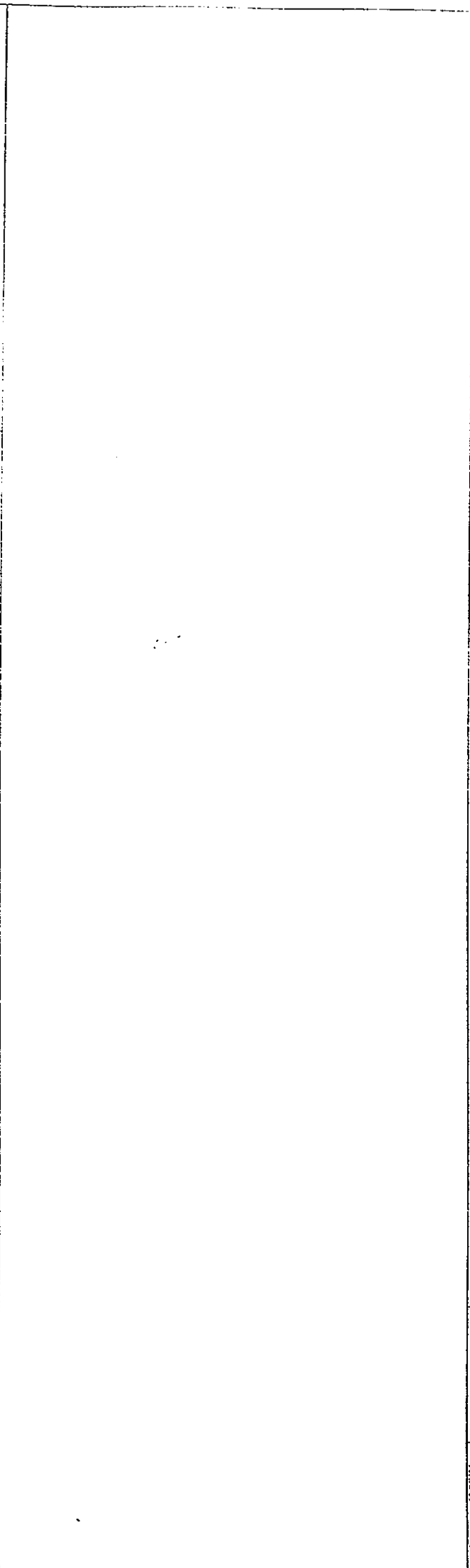
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Finish date	28OCT07	Progress bar
Offit date	28SEP05	Critical bar
Run date	17OCT05	Summary bar
Page number	27A	Start milestone point
		Finish milestone point

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Item	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
Section 13										
Area SA1, SA2, SA3, SA4 & SA5										
Landscape Siteworks										
BAAUSL0100	0	10APR06	16MAY06	23AUG06	26SEP06					
BAAUSL0200	0	17APR06	22MAY06	23AUG06	26SEP06					
BAAUSL0300	0	02SEP06	08SEP06	08NOV06	08NOV06					
BAAUSL0400	0	16JUN06	21JUL06	23AUG06	26SEP06					
BAAUSL0500	0	22JUL06	28SEP06	27SEP06	07DEC06					
BAAUSL0600	0	09SEP06	16SEP06	20DEC06	20DEC06					
Area SA6, SA9, SA10, SA15, SA16, SA17 & SA18										
Landscape Siteworks										
BAAUSL0100	45	24MAY06	17JUL06	26SEP06	21NOV06					
BAAUSL0200	30	18JUL06	21AUG06	22NOV06	20DEC06					
Section 14										
Area SA6, SA11B & SA14 SA5										
Establishment Works										
BAAEY0100	300	28JUL06	24JUL07	28FEB06	17FEB07					
Section 15										
Area SA7, SA10, SA11A, SA12 & SA13										
Establishment Works										
BAAEY0100	300	200	18OCT06	12OCT07	11NOV06	00NOV07				
Section 16										
Area SA1, SA2, SA3, SA4 & SA5										
Establishment Works										
BAAEY0200	320	0	09SEP06	20OCT07	08DEC06	28DEC07				
Area SA6, SA9, SA10, SA15, SA16, SA17 & SA18										
Establishment Works										
BAAEY0100	300	1110	0	22AUG06	15AUG07	02JAN07	20DEC07			



Start date: 10JUN06
 Finish date: 20OCT07
 Date of issue: 28SEP06
 Run date: 17OCT05
 Page number: 28A

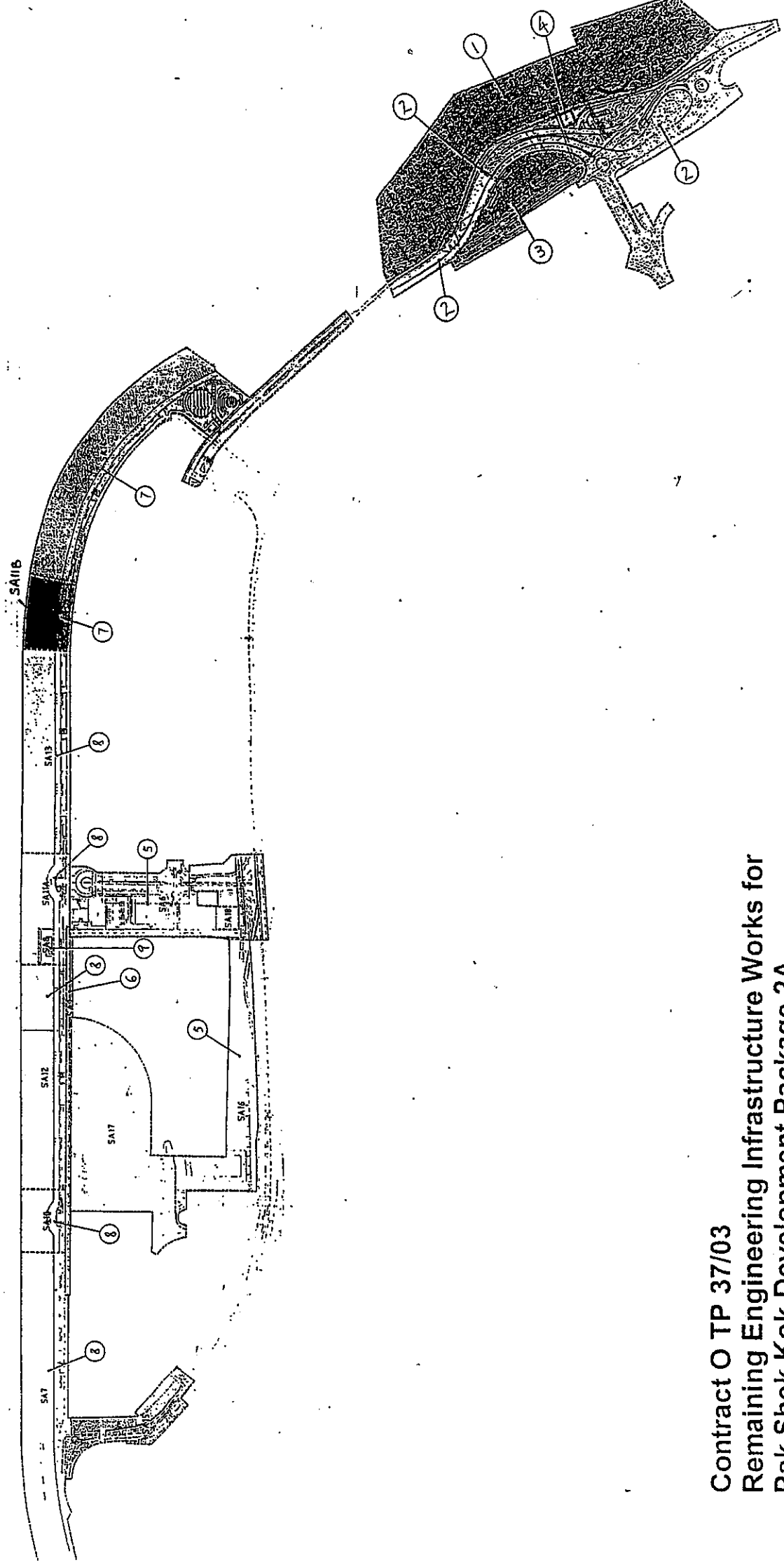
Legend:
 ■ Any bar
 ▨ Progress bar
 ▩ Critical bar
 ◆ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

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Appendix G

Construction Site Area



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

Location and Key Plan



Appendix H

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

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 : 1 April 2006 Inspected by Name : (RSS) Jimmy Ng (LWKJN) (ET) H.T. Chow
 Time : 10:15 Signature : *[Signature]*
 Weather Condition Wind : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Temperature Humidity : 24°C : High / Moderate / Low
 Wind : Calm / Light / Breeze / Strong

	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"/>	<input checked="" type="checkbox"/>	# 3
▪ 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, should 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	
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.	✓		①
▪ 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.	✓		②
▪ 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.	✓		#3
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.	✓		#3
▪ 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.		✓	# 3
• 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.	✓			# 2
• 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 displayed conspicuously on site	✓			
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓			
• Any unused chemicals or those with remaining functional capacity should be recycled.	✓			
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	✓			
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.	✓			
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.	✓			
• All generators, fuel and oil storage are within bundle areas.	✓			
• Oil leakage from machinery, vehicle and plant is prevented.	✓			
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.	✓			

Table for follow-up Action:

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 March 2006, the silt curtain at Node 2 was still found damaged.	Node 2	The Contractor should be repair the damaged part of curtain immediately.	6-4-06
#2	Follow up action to the previous site inspection item ② on 23 March 2006, two oil containers at Work shop were still found without labels.	Work shop	The Contractor should be provide labels for two oil containers.	6-4-06
#3	Follow up action to the previous site inspection item ③ on 23 March 2006, stockpiles of filling materials at SA3 were still found not covered, and SA-1	Ma Tin Shui (SA3) and Ma Tin Shui (SA-1)	The Contractor was reminded to cover all stockpiles by using tarpaulin sheets. Besides, large stockpile should be created by hydroseeding.	6-4-06
#4	Follow up action to the previous site inspection item ④ on 23 March 2006, the Work shop was cleaned up and kept tidy.	Workshop	Follow up action was completed, no further action to be taken.	N/A
①	Underground water was found direct discharge to the drainage channel.	Ma Tin Shui (SA-3)	The Contractor should be adopted any treatment process before discharge.	6-4-06
②	Drainage channels was found block up by sediment and sand.	Node 1	The Contractor was reminded to clean up the channels under the rainy season.	6-4-06

Signature:	RSS	LWKJV	ET
Name:	he	Lu	H.T. Chou
Date:	JMMY MA 1/4/06	Za-ty 1 April 06	1-4-2006

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 : *26 April 2006* Inspected by : (RSS) *Sunny Pang G (LWKJM)* Name : (RSS) *Sunny Pang G (LWKJM)* (ET) *H.T. Chow*
 Time : *10:15* Signature : *[Signature]*
 Weather Condition : *Sunny* Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : *28°C*
 Wind : *Calm* Light / Breeze / Strong 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"/>		#3
▪ The haul road should be either paved or regular watering.		<input checked="" type="checkbox"/>		Remark ①
▪ Unpaved areas should be watered regularly to avoid dust generation.		<input checked="" type="checkbox"/>		Remark ①
▪ 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	# 4
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ All traps shall incorporate oil and grease removal facilities.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ All drainage facilities should be adequate for controlled release of storm flows.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	# 1
▪ Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Open stockpiles of more than 50m ³ should be covered.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	# 3
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	# 3
▪ Manholes should be covered and sealed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Vehicle washing facilities should be provided at every site exit.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Washing area and road exiting from washing facility should be paved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Access road should have sufficient back fall toward washing facility.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Dredging Activities			
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



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.	<input checked="" type="checkbox"/>		# 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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.	<input checked="" type="checkbox"/>		
• All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• 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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Waste Management			
Marine Dredged Sediment			
• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.	<input checked="" type="checkbox"/>		
• 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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• 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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• 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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Inspection of the barge loading to ensure that loss of material does not take place during transportation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
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.	<input checked="" type="checkbox"/>		
• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.	<input checked="" type="checkbox"/>		# 3
• Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)	<input checked="" type="checkbox"/>		
• 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.	<input checked="" type="checkbox"/>		
• 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.	<input checked="" type="checkbox"/>		
• Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.	<input checked="" type="checkbox"/>		
• Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills	<input checked="" type="checkbox"/>		
• 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.	<input checked="" type="checkbox"/>		
• Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized	<input checked="" type="checkbox"/>		

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

	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.	✓		# 2
• 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

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
Spillage				
Establish source of spill or discharge and determine nature of material, where possible halt discharge			✓	
Commencing at the source of the spill, establish all current and potential impacted areas			✓	
Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary			✓	
After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials			✓	
Dispose of materials as chemical wastes			✓	
General Refuse				
General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste	✓			
A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.	✓			
General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts	✓			
Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.	✓			
Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.	✓			
Site Practice				
Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment. Construction sites should be cleaned on a regular basis.	✓			
The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	✓			
Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	✓			
The Environmental Permit should be 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 (23-3-06) and item #1 (14-06), the silt curtain at Node 2 was still found partly damaged.	Node 2	The Contractor should be repair the damaged parts of curtain immediately.	13-4-06
#2	Follow up action to the previous site inspection item ② (23-3-06) and item #2 (14-06), two oil containers at Workshop were still found without labels.	Workshop	The Contractor was reminded to provide appropriate labels for two oil containers.	13-4-06
#3	Follow up action to the previous site inspection item ③ (23-3-06) and item #3 (14-06), stockpiles of flash materials at SA-1 and SA-3 were still found without covered.	Ha Liu Sheu; (SA-1 and SA-3)	The Contractor was reminded to cover all stockpiles by using tarpaulin sheets. Besides, large stockpile should be treated by hydroseeding.	13-4-06
#4	Follow up action to the previous site inspection item ④ on (14-06), Ha Liu Sheu (SA-3) under-board water was still found direct discharge to the drainage channel.	Ha Liu Sheu (SA-3)	The Contractor should be adopted any treatment process before discharge.	13-4-06
#5	Follow up action to the previous site inspection item ⑤ on (14-06) drainage channels was still found blocked up by sediment and rubbish.	Node 1	The Contractor was reminded to clean up the channels under the rainy season.	13-4-06
①	Dust generation was found at SA-14.	SA-14	The Contractor was reminded to spray water more frequently on haul road and of unpaved area.	13-4-06
②	Standing water was found accumulated at "Retaining wall no. 1"	SA-3	The Contractor was reminded to pump out the standing water to prevent mosquito breeding.	13-4-06

Signature:	RSS	LWKJV	ET
Name:	Jimmy Young	Wong	H.T. CHOW
Date:	6-4-2006	6/4/06	6-4-2006

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 : 13 April 2006 Inspected by Name : (RSS) Y. H. Lam (LWKJM) (ET) H.T. Chow
 Time : 10:50 Signature : *[Signature]* *[Signature]*

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hezy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 22°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"/>		# 3
▪ The haul road should be either paved or regular watering.	<input checked="" type="checkbox"/>		# 6
▪ Unpaved areas should be watered regularly to avoid dust generation.	<input checked="" type="checkbox"/>		# 6
▪ 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	
Mitigation Measures on Waste Management				
Water Quality				
General Construction Activities				
▪	✓			
▪	✓			
▪	✓			
▪	✓			
▪	✓			
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Dredging Activities				
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▪	✓			



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.			✓	# 3
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.	✓		# 2
• 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			✓

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

	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

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 (13-3-06), item #1 (1-4-06) and item #1 (6-4-06), the silt curtain at Node 2 was still found partly damaged.	Node 2	The Contractor should be repair the damaged parts of curtain immediately.	20-4-06
#2	Follow up action to the previous site inspection item ② (23-3-06), item #2 (1-4-06) and item #2 (6-4-06), two oil containers at Workshop were still found without labels.	Workshop	The Contractor was reminded to provide appropriate labels for two oil containers.	20-4-06
#3	Follow up action to the previous site inspection item ③ (23-3-06), item #3 (1-4-06) and item #3 (6-4-06), stockpiles of filling materials at SA-1 and SA-3 were still found without covered.	Ma Liu Shui (SA-1 and SA-3)	The Contractor was reminded to cover all stockpiles by using tarpaulin sheets. Besides, large stockpile should be treated by hydroseeding.	20-4-06
#4	Follow up action to the previous site inspection item ④ on (14-06) and item #4 (6-4-06), under-ground water was treated by sedimentation tank.	Ma Liu Shui SA-3	Follow up action was completed, no further action to be taken.	N/A
#5	Follow up action to the previous site inspection item ⑤ on (14-06) and item #5 (6-4-06), drainage channels at Node 1 was cleaned up.	Node 1	Follow up action was completed, no further action to be taken.	N/A
#6	Dust generation was still found at SA-14	SA-14	The Contractor was reminded to spray water more frequently on haul road and unpaved area.	20-4-06

Signature:	RSS	LWKJV	ET
Name:	John		Sato
Date:	13/4/06	13/4/06	H.T. Chan
			13-4-2006

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 : 20 April 2006 Inspected by Name : (RSS) Jimmy MA (LWKJM) (ET) H.T. Chow
 Time : 10:00 Signature : *[Signature]*
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 29°C
 Wind : Calm / Light / Breeze / Strong 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.	✓			
▪ 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 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*			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.	✓			②
Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓			②
All traps shall incorporate oil and grease removal facilities.	✓			
Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	✓			
All drainage facilities should be adequate for controlled release of storm flows.	✓			①
Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓			
Open stockpiles of more than 50m ³ should be covered.	✓			# 3
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				
<input type="checkbox"/>		<input checked="" type="checkbox"/>		
Use of silt screen around the filling face to reduce the losses to the surrounding.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	# 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.				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
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				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
Relevant licence / permits for disposal of marine dredged sediment are available for inspection.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
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.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
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.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
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.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
Inspection of the barge loading to ensure that loss of material does not take place during transportation.				
Construction and Demolition (C&D) Waste				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
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.				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Proper protective measures, such as fences and tarpaulin, are provided, in order to protect the temporary stockpiled materials for later reuse / recycle.				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
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.				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
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.				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.				
<input type="checkbox"/>			<input checked="" type="checkbox"/>	
Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
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.				
<input type="checkbox"/>	<input checked="" type="checkbox"/>			
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	
Mitigation Measures on Waste Management			
• Proper storage will minimize the damage and thus the wastage of the materials	✓	N/A	
• 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


Mitigation Measures on Waste Management	Implementation Stages*		Remark
	Yes	No	
• Spillage			
• Establish source of spill or discharge and determine nature of material, where possible halt discharge			
• Commencing at the source of the spill, establish all current and potential impacted areas			✓
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary			✓
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials			✓
• Dispose of materials as chemical wastes			✓
• General Refuse			
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste			
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.			✓
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts			✓
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.			✓
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.			✓
• Site Practice			
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment. Construction sites should be cleaned on a regular basis.			✓
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.			✓
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.			✓
• The Environmental Permit should be displayed conspicuously on site			✓
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.			✓
• Any unused chemicals or those with remaining functional capacity should be recycled.			✓
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.			✓
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.			✓
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.			✓
• All generators, fuel and oil storage are within bundle areas.			✓
• Oil leakage from machinery, vehicle and plant is prevented.			✓
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.			✓
			①

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 (23-3-06), item #1 (1-4-06), item #1 (6-4-06) and item #1 (13-4-06), the silt curtain at Node 2 was still found partly damaged.	Node 2	The Contractor should be repair the damaged parts of the curtain immediately.	27-4-2006
#2	Follow up action to the previous site inspection item ② (23-3-06), item #2 (1-4-06), item #2 (6-4-06) and item #2 (13-4-06), an appropriate label was provided for oil container.	Workshop	Follow up action was completed, no further action to be taken.	N/A
#3	Follow up action to the previous site inspection item ③ (23-3-06), item #3 (1-4-06), item #3 (6-4-06) and item #3 (13-4-06), stockpiles at SA1 and SA3 were found covered by tarpaulin sheets, but the large stockpile at SA-3 still found partly without covered.	Ma Tau Shui (SA-1 and SA-3)	The Contractor was reminded to treated by hydroseeding for large stockpile.	27-4-2006
#4	Follow up action to the previous site inspection item ④ on 6-4-06 and item #6 (13-4-06), no dust generation was found and spraying water at SA-14 was observed.	SA-14	Follow up action was completed, no further action to be taken.	N/A
①	U-channel next to the stockpile was found block up by sediment and sand.	Sub. SA Node 1	The Contractor was reminded to clean up the channel under the rainy season.	27-4-2006
②	Underground water was found direct discharge to the storage channel.	Ma Tau Shui (SA-3)	The Contractor should be adopted any treatment process before discharge.	27-4-2006
Signature:	RSS	LWKJV	ET	
Name:	Jimmy MA			
Date:	20.4.06			
			H.T. Chens	20-4-2006

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 : 26/04/06 Inspected by Name : (RSS) Eric Leung (LWKJM) Ben Yip (ET) Linda Law
 Time : 14:30 Signature :  Linda Law

Weather : Sunny (Fine) / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 29°C
 Condition : Calm / Light / Breeze / Strong Humidity : High / Moderate / Low
 Wind :

	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.	/		
▪ 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.	/		Refer #2
▪ 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 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

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.	/			Item # 2
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.	/			Item # 2
Temporary stockpiles of excavated materials should be covered during rainstorms.	/			Item # 2
Manholes should be covered and sealed.	/			
All chemical stores shall be contained (bundled) 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.	/			

2 x #3



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
<i>Filling Activities</i>				
<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				
<i>Marine Dredged Sediment</i>				
<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 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 minimize 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 minimize the potential for damage or contamination of construction materials.	/			
• The Environmental Permit should be displaced conspicuously on site	/			3
• Plan and stock construction materials carefully to minimize 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 findings item ① (23/3/6), item #1 (1/4/6), item #1 (1/4/6), item #1 (13/4/6) and item #1 (20/4/6), silt curtain at Node 2 was still found partly damaged	Node 2	The Contractor should repair the damaged parts of the silt curtain immediately.	4/5/6
# 2	Follow up action to the previous findings item ② (23/3/6), item #3 (1/4/6), item #3 (13/4/6) and item #3 (20/4/6), stockpiles at SA1 and SA3 were found partly covered	Ma Liu Shui (SA1 & SA3)	The Contractor should cover all stockpiles.	4/5/6
# 3	Follow up action to the previous findings item ① (20/4/6), U-channel next to the stockpile was still found to be blocked by sand and mud.	Node 1	The Contractor was reminded to clean up the channel immediately	4/5/6
# 4	Follow up action to the previous finding item ② (20/4/6), site runoff was found diverted to the sedimentation tank before discharge.	Ma Liu Shui (SA-3)	Since the finding was improved, no further action should be taken.	N/A
①	Water ponding was observed at Portion H, Node 3 and Ma Liu Shui.	Portion H, Node 3, Ma Liu Shui	The Contractor was reminded to level the ponding areas in order to avoid accumulation of water.	4/5/6
②	Site runoff was accumulated in the drainage channel at Voided Abutment.	Voided Abutment	The accumulated site runoff should be pump out and treated before discharge.	4/5/6
③	No EP was post at Voided Abutment and SA1 site entrance.	Voided Abutment & SA1	The Contractor should post the EP at the site entrance.	4/5/6
④	Muddy water from wheel washing was found accumulated near the SA1 site entrance.	SA1 site entrance.	The Contractor should collect the wastewater and treat it before discharge.	4/5/6
Signature:		LW&JV	ET	
Name:			Linda Lam	
Date:			Linda Lam 26 April 2006	

New:

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

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



ENVIRO LABS LIMITED

環境化驗有限公司

TEST REPORT

JOB NO. : A-60436

DATE OF ISSUE : 12 April 2006

PAGE : 1 of 1

1. Client

Leader - Wai Kee (C&T) Joint Venture

Unit 1001-1005, 10/F., Grand Central Plaza, Tower 1, 138 Shatin Rural Committee Road, Sha Tin, N.T., HK

Attn.: Mr. Ben Yip

2. Sample Identification

Sample Description : One batch of water samples said to be wastewater

Sampling : Conducted by Enviro Labs Ltd.

Sampling Point : Outlet of sedimentation tank at

Construction Site of Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A, Pak Shek Kok, N.T. (Contract No. TP 37/03)

Preservation : Delivered and stored under refrigerated condition

Sampling Date : 31 Mar 2005

Received Date : 31 Mar 2005

3. Test Method

Parameter	Reference Method	Testing Period
(i) Total Suspended Solids (TSS) Dried at 103-105°C	APHA ¹ 17c 2540 D	31 Mar - 11 Apr 2005

1. APHA Standard Methods for the Examination of Water and Wastewater

4. Test Result*

Sample Label	Test Parameter	Sample No.	Test Result	Discharge Limit**	Unit
Discharge Point near Ma Liu Shui Pier 1	Total Suspended Solids	60436-2	21	30	mg/L

* Test results relate only to the items received

** Information provided by the client. (It is not a test result, information for reference only).

--- END OF REPORT ---



APPROVED SIGNATORY :

Kenneth Lam
(Laboratory Manager)

Rm 611-612, Hong Leong Plaza, 33 Lok Yip Road,
Fanling, N.T., Hong Kong

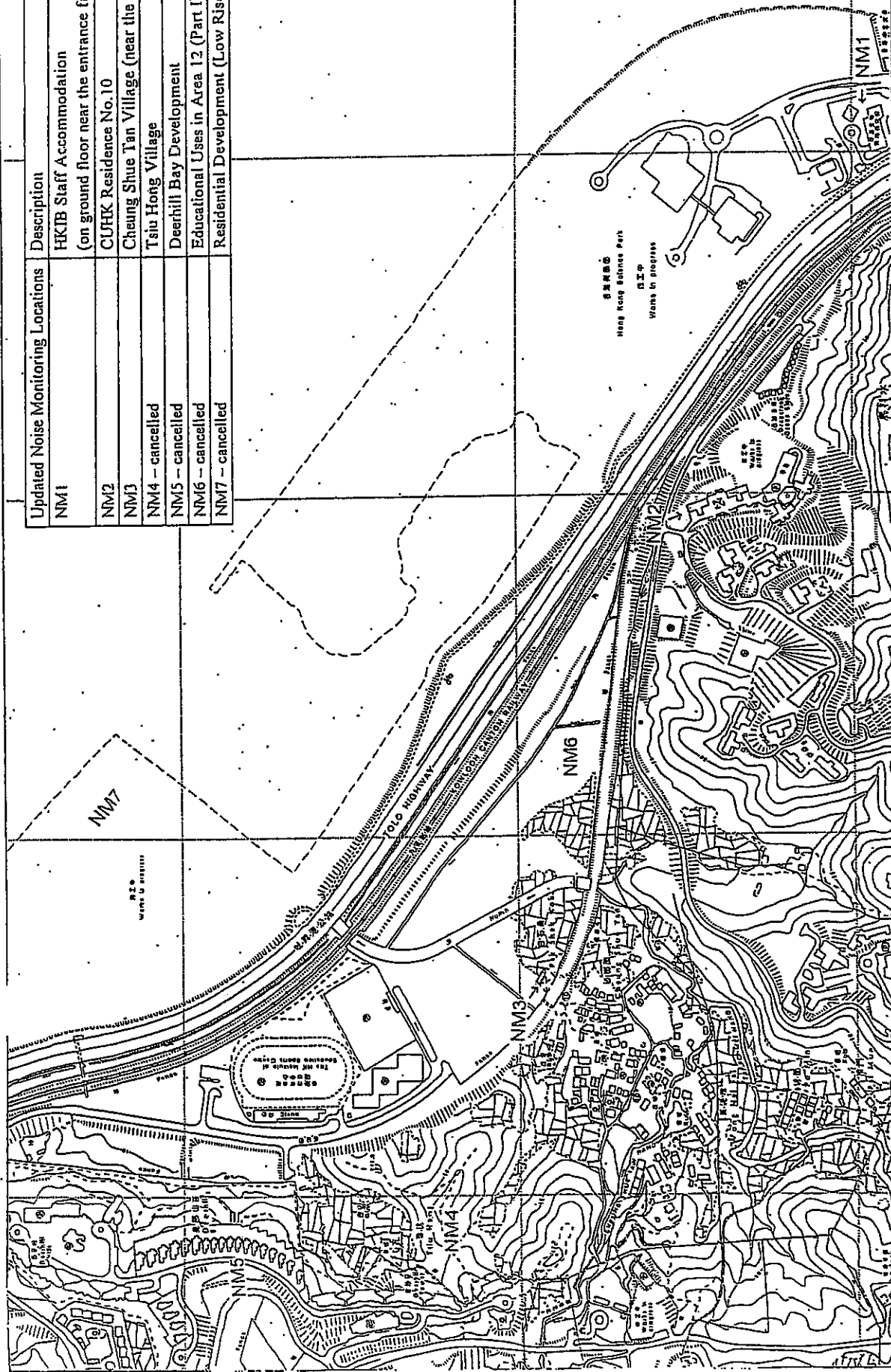
Tel: (852) 2676 2983
Fax: (852) 2676 2860

http://www.envirolabs.com.hk
e-mail: elk@envirolabs.com.hk



Figures

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



Scale : ---

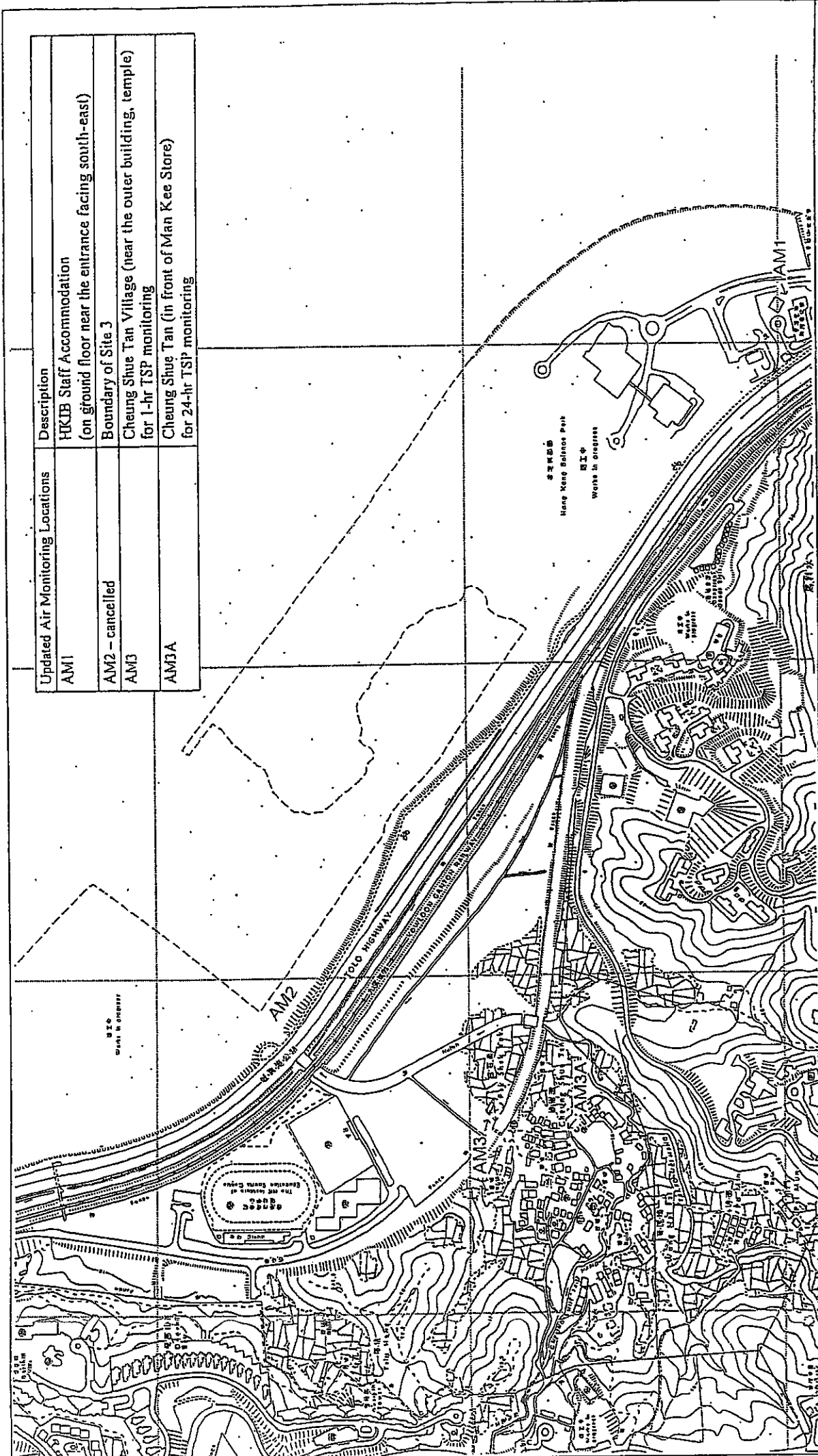
Revised Date:

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



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Updated Air Monitoring Locations	Description
AM1	HKB 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

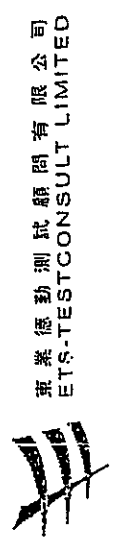
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Revised Date:

June 2004

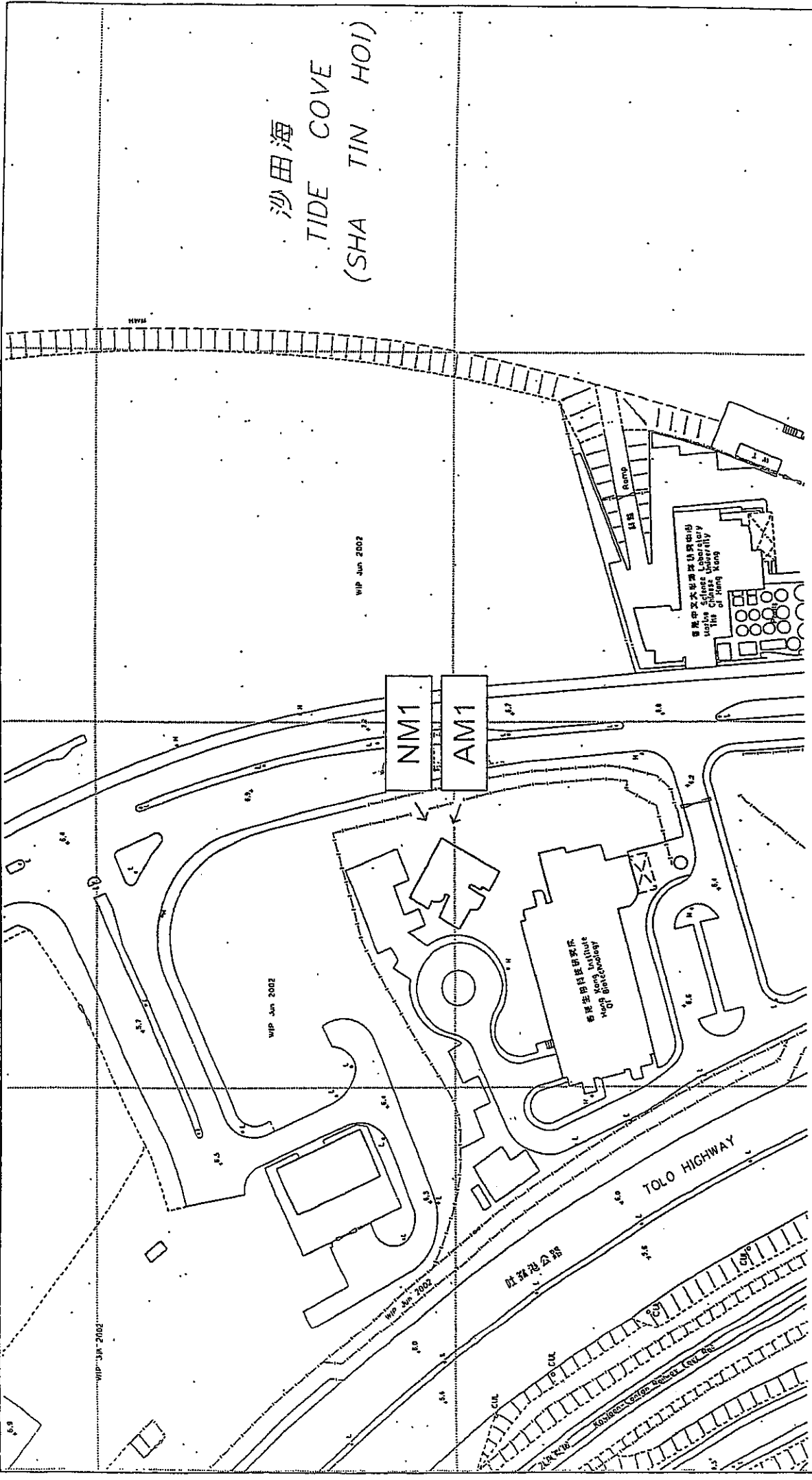
Remaining Engineering Infrastructure Works for
 Pak Shek Kok Development Package 2 A
 Contract No. TP 37/03

Figure 2 Location of Air Monitoring Stations



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沙田海
TIDE COVE
(SHA TIN HOI)



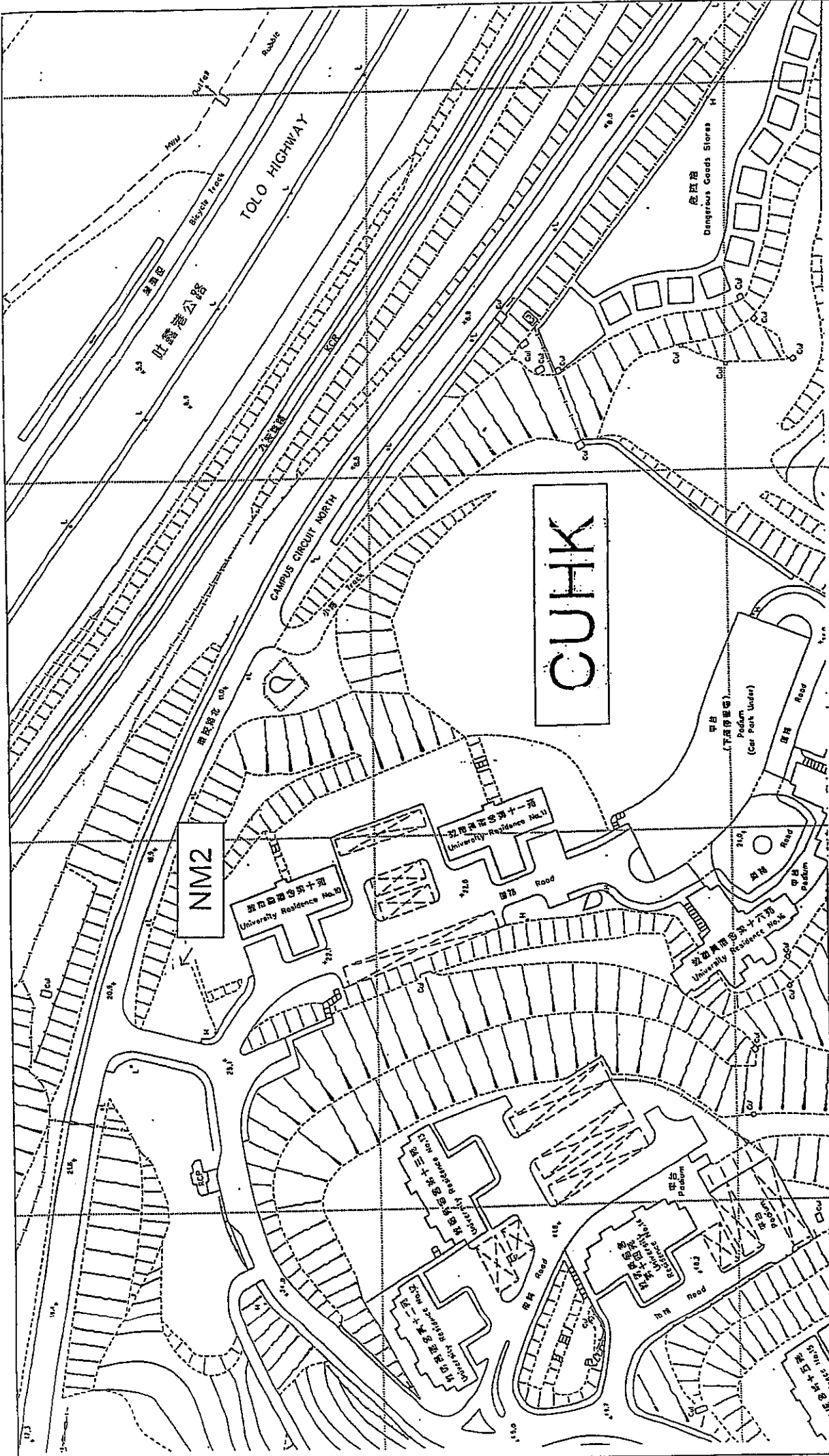
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Scale : ---

Revised Date:

June 2004

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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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 : ---

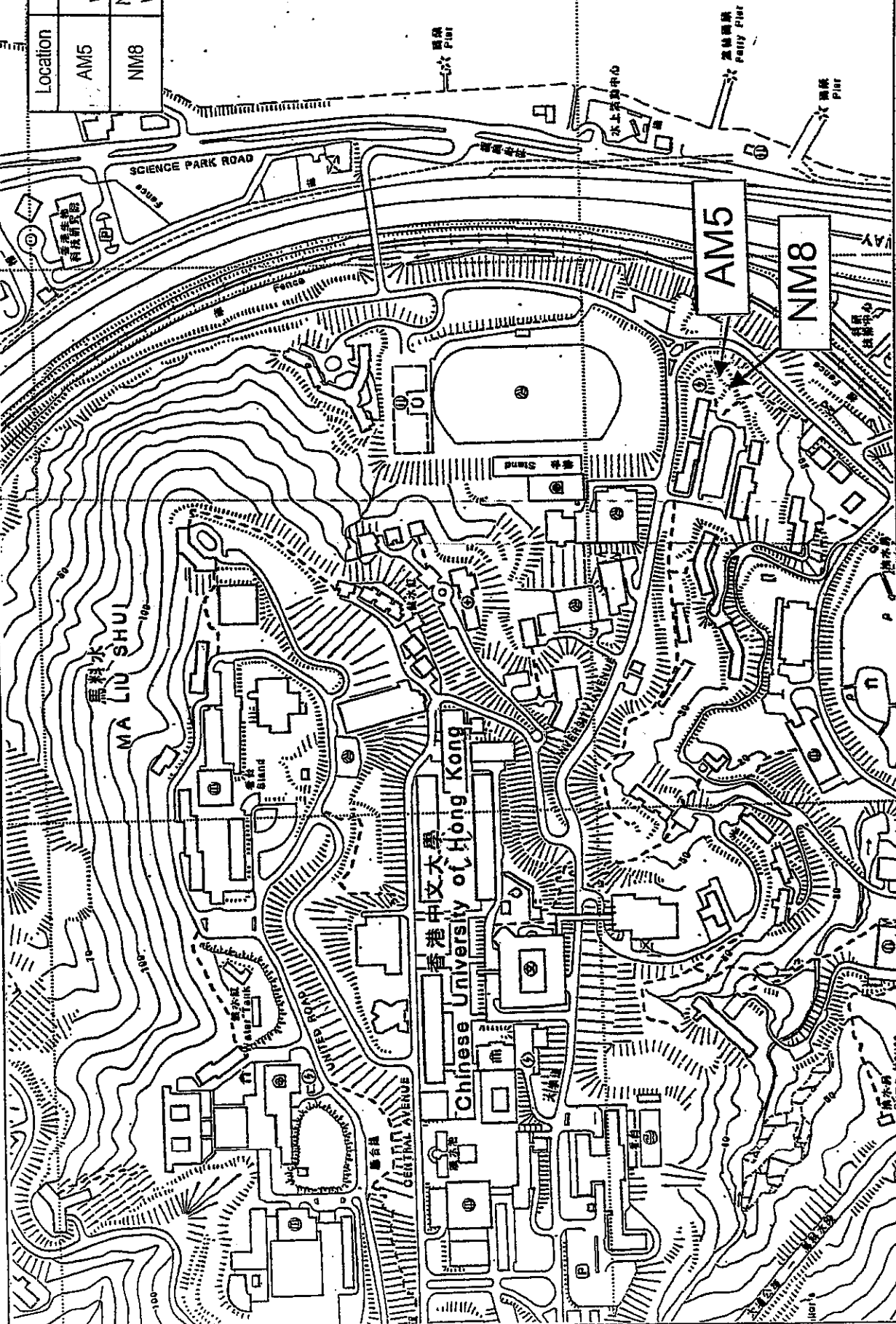
Revised Date:

June 2004



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



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

Scale : ---

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October 2004



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