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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
(JULY 2005)

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EXECUTIVE SUMMARY

This monthly EM&A report (No.3) has been prepared to document the impact monitoring works conducted for the Contract of the Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No: TP 37/03) during the reporting period from 01 to 31 July 2005.

Construction Progress

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

- Drainage works (Excavation, pipe lying and breaking) at Section 5, 6,7 & 8
- Construction of vertical seawall at Landscape Node P1, P2 and Public landing steps
- Preloading mound at SA3
- Construction of Kerb plarter Wall and Feature Wall at Section 7 & 8

Environmental Monitoring Progress

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

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

Noise Monitoring

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

Air Monitoring

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

Wastewater Monitoring

During this reporting month, no wastewater monitoring was carried out since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the monitoring had been carried out at 25 May 2005 by ET. The next wastewater monitoring should be at August 2005.

Site Inspection

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

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
Weekly site inspection (ET)	02, 07, 14, 21, 27
Monthly site inspection (IEC/LWKJV/RE)	27

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

<u>Item</u>	<u>Aspects</u>	<u>Findings</u>	<u>Action(s) taken by LWKJV</u>	<u>ET Verification</u>
1	Water	Refer to the previous site inspection of the last month, site runoff was found treated by passing through before discharged into the sea at SA14 during weekly site inspections (14/07/05).	Since the finding was improved, no further actions were required.	Since the finding was improved, no further verifications were required.
2	Water	Temporary water pipe was found broken near the stockpile next to Node 1 during the weekly site inspection (02/07/05)	The Construction team repaired the broken water pipe immediately.	During the subsequent site inspection (07/07/05), it was found that the broken water pipe had been repaired. Hence, the finding was completed and no further actions were required.
3	Site Practice	No trip tray was provided for a fuel tank at Node 1 during weekly site inspection (02/07/05)	The Construction team removed the fuel tank to the chemical storage area.	During the subsequent site inspection (07/07/05), it was found that the fuel tank had been removed. Hence, the finding was completed and no further actions were required.
4	Water	Water ponding was observed at Road L4 during weekly site inspection (02/07/05).	The Construction team replied to drain / pump the ponding water out.	During the subsequent site inspection (07/07/05), no water ponding was observed at Road L4. Hence, the finding was completed and no further actions were required.



Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
5	Site Practice	The rubbish skip was found full at Road L4 during weekly site inspection (02/07/05).	The Construction team replied to clean up the rubbish immediately and provided more manpower to cleanup the rubbish regularly.	During the subsequent site inspection (14/07/05), the rubbish skip was found cleaned up. Hence, the finding was completed and no further actions were required.
6	Site Practice	No trip tray was provided for the generator at Landscape Node 1 during weekly site inspection (14/07/05)	The Construction team replied to provide trip tray for all generators.	During the subsequent site inspection (21/07/05), it was found that the generator had been removed. Hence, the finding was completed and no further actions were required.
7	Water	The silt curtain was found partly enclosed the marine working areas at Node 2 and Node 3 during weekly site inspection (21/07/05).	The Construction team replied to enclose the all marine working areas completely by silt curtain and maintain the silt curtain properly.	During the subsequent site inspection (27/07/05), it was found that the silt curtain was fully enclosed the marine working area. Hence, the finding was completed and no further actions were required.

Waste Management

According to weekly site inspection, ET found that the Contractor followed the recommended procedures stipulated in the Waste Management Plan (WMP) on handling and disposal of wastes. 8030 m³ inert C&D materials, 30 kg metals and 3000 kg general refuse were generated. All inert C&D materials were reused in the Contract and other wastes were handling under the instruction and procedure stated in the WMP in this reporting month.

Environmental Complaints

No environmental complaints were received in this monitoring month.

Notification of summons and successful prosecutions

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

Future Key Issues

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

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



1.0 INTRODUCTION

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

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

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

This monthly EM&A report summarizes the impact monitoring results and audit findings of the EM&A program during the reporting period from 01 to 31 July 2005.

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 5, 6, 7, 8
Construction of vertical seawall	Landscape Node P1, P2 and Public Landing Steps
Preloading mound	SA3
Construction of Kerb Plaster Wall and Feature Wall	Section 7 & 8

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 conducted to monitor the air quality, at designated monitoring locations:

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



4.2 Monitoring Equipment

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

Table 4.1 Air Quality Monitoring Equipment

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

4.3 Monitoring Parameters, Frequency and Duration

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

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

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

4.4 Monitoring Locations and Schedule

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

Table 4.3 Air quality monitoring locations

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

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

Table 4.4 Monitoring Schedule for the air quality monitoring stations

Air quality monitoring stations	Location	Monitoring Period								
		24-hr TSP				1-hr TSP				
		Start		Finish		Date	Start	Finish		
		Date	Time	Date	Time					
AM1	HKIB Staff Accommodation	---						02/07/05	14:25	15:25
								05/07/05	10:20	11:20
								07/07/05	13:48	14:48
								09/07/05	10:20	11:20
								12/07/05	10:15	11:15
								14/07/05	11:00	12:00
								16/07/05	10:30	11:30
								19/07/05	08:15	09:15
								21/07/05	15:40	16:40
								23/07/05	09:35	10:35
								26/07/05	14:20	15:20
								28/07/05	08:30	09:30
								30/07/05	14:20	15:20



Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP				1-hr TSP		
		Start		Finish		Date	Start	Finish
		Date	Time	Date	Time			
AM3	Cheung Shue Tan Village (Near the outer building, temple)					02/07/05	13:00	14:00
						05/07/05	09:00	10:00
						07/07/05	15:02	16:02
						09/07/05	15:40	16:40
						12/07/05	16:40	17:40
						14/07/05	13:15	14:15
						16/07/05	16:00	17:00
						19/07/05	13:00	14:00
						21/07/05	13:00	14:00
						23/07/05	15:50	16:50
						26/07/05	13:00	14:00
						28/07/05	15:30	16:30
						30/07/05	11:00	12:00
AM5	Near Wen Chih Tang at the CUHK					02/07/05	18:00	19:00
						05/07/05	15:00	16:00
						07/07/05	16:12	17:12
						09/07/05	09:00	10:00
						12/07/05	13:00	14:00
						14/07/05	17:35	18:35
						16/07/05	17:20	18:20
						19/07/05	11:00	12:00
						21/07/05	14:20	15:20
						23/07/05	10:50	11:50
						26/07/05	18:00	19:00
						28/07/05	09:40	10:40
						30/07/05	13:00	14:00
AM1	HKIB Staff Accommodation	04/07/05	08:35	05/07/05	08:22			
		09/07/05	10:28	10/07/05	10:22			
		15/07/05	10:00	16/07/05	09:25			
		21/07/05	15:45	22/07/05	15:51			
		27/07/05	09:18	28/07/05	09:14			
AM3A	Cheung Shue Tan (in front of Man Kee Store)	04/07/05	08:08	05/07/05	08:34			
		09/07/05	15:45	10/07/05	15:43			
		15/07/05	09:37	16/07/05	09:45			
		21/07/05	13:05	22/07/05	13:38			
		27/07/05	09:45	28/07/05	10:01			
AM5	Near Wen Chih Tang at the CUHK	04/07/05	08:20	05/07/05	08:33			
		09/07/05	09:05	10/07/05	09:22			
		15/07/05	09:50	16/07/05	09:32			
		21/07/05	14:25	22/07/05	14:47			
		27/07/05	09:30	28/07/05	09:34			

4.5 Monitoring Methodology

4.5.1 24-hour TSP Monitoring

Instrumentation

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

Installation

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

Operation/Analytical Procedures

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

Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m³/min and 1.7m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

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

Maintenance & Calibration

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

4.5.2 1-hour TSP Monitoring

Measuring Procedures

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

- Set POWER to ON, check the battery indicator to ensure whether the power supply is enough to conduct the TSP monitoring;
- Calibrate the dust meter by zero check;
- Set the TIME CONSTANT of the dust meter;
- Press SAMPLE to start the TSP monitoring;
- Record the maximum, minimum and average reading directly from the dust meter by press STATISTICS when monitoring complete.

Maintenance & Calibration

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

4.5.3 Wind Data Monitoring

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

4.6 Action and Limit Levels

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



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

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

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

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

4.7 Event-Action Plans

Please refer to Appendix E for details.

4.8 Results

4.8.1 24-hour TSP Monitoring

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

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

4.8.2 1-hour TSP Monitoring

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

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

5.0 Noise Monitoring

5.1 Monitoring Requirements

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

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

5.2 Monitoring Equipment

Integrating Sound Level Meters were used for noise monitoring. They were Type 1 sound level meters capable of giving a continuous readout of the noise level reading including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x). They comply with International Electro technical Commission Publications 651:1979 (Type1) and 804:1985 (Type1), and speed in m/s was used to monitor the wind speed.

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



Table 5.1 Noise Monitoring Equipment

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

5.3 Monitoring Parameters, duration and Frequency

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

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

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

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

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

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

5.4 Monitoring Locations and Period

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

Table 5.3 Noise Monitoring Locations

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

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

Table 5.4 Monitoring Periods for noise monitoring stations

Monitoring stations	Monitoring Period							
	Day-time		Evening-time		Holiday		Night-time	
NM1	02/07/05	14:39	---	---	---	---	---	---
	05/07/05	10:23	---	---	---	---	---	---
	12/07/05	10:20	---	---	---	---	---	---
	19/07/05	08:17	---	---	---	---	---	---
	26/07/05	14:25	---	---	---	---	---	---
NM2	02/07/05	18:05	---	---	---	---	---	---
	05/07/05	16:15	---	---	---	---	---	---
	12/07/05	11:30	---	---	---	---	---	---
	19/07/05	15:45	---	---	---	---	---	---
	26/07/05	18:30	---	---	---	---	---	---



Monitoring stations	Monitoring Period							
	Day-time		Evening-time		Holiday		Night-time	
NM3	02/07/05	13:03	---	---	---	---	---	---
	05/07/05	09:05	---	---	---	---	---	---
	12/07/05	16:45	---	---	---	---	---	---
	19/07/05	13:02	---	---	---	---	---	---
	26/07/05	13:05	---	---	---	---	---	---
NM8	02/07/05	13:53	---	---	---	---	---	---
	05/07/05	15:05	---	---	---	---	---	---
	12/07/05	13:03	---	---	---	---	---	---
	19/07/05	11:02	---	---	---	---	---	---
	26/07/05	17:45	---	---	---	---	---	---

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		70 dB(A) **
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).

Water quality monitoring was carried out at 25 May 2005. One wastewater sample was collected from the discharge point at the construction site. The results of suspended solids content of the wastewater sample was complied the discharge limit of the Discharge Licence. The test report was attached at Appendix I.

Since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly, the next wastewater monitoring should be at August 2005.

7.0 ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of environmental monitoring

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

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

During this reporting month, no wastewater monitoring was carried out since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the monitoring had been carried out at 25 May 2005 by ET. The next wastewater monitoring should be at August 2005.

7.2 Summary of Environmental Complaints

No environmental complaints were received in this monitoring month.

7.3 Summary of Notification of Summons and Prosecution

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

8.0 SITE INSPECTION

Weekly site inspections were carried out by the ET in this reporting month (02, 07, 14, 21 and 27 July 2005). Monthly joint site inspection at 27 July 2005 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	Refer to the previous site inspection of the last month, site runoff was found treated by passing through before discharged into the sea at SA14 during weekly site inspections (14/07/05).	Since the finding was improved, no further actions were required.	Since the finding was improved, no further verifications were required.
2	Water	Temporary water pipe was found broken near the stockpile next to Node 1 during the weekly site inspection (02/07/05)	The Construction team repaired the broken water pipe immediately.	During the subsequent site inspection (07/07/05), it was found that the broken water pipe had been repaired. Hence, the finding was completed and no further actions were required.
3	Site Practice	No trip tray was provided for a fuel tank at Node 1 during weekly site inspection (02/07/05)	The Construction team removed the fuel tank to the chemical storage area.	During the subsequent site inspection (07/07/05), it was found that the fuel tank had been removed. Hence, the finding was completed and no further actions were required.
4	Water	Water ponding was observed at Road L4 during weekly site inspection (02/07/05).	The Construction team replied to drain / pump the ponding water out.	During the subsequent site inspection (07/07/05), no water ponding was observed at Road L4. Hence, the finding was completed and no further actions were required.
5	Site Practice	The rubbish skip was found full at Road L4 during weekly site inspection (02/07/05).	The Construction team replied to clean up the rubbish immediately and provided more manpower to cleanup the rubbish regularly.	During the subsequent site inspection (14/07/05), the rubbish skip was found cleaned up. Hence, the finding was completed and no further actions were required.
6	Site Practice	No trip tray was provided for the generator at Landscape Node 1 during weekly site inspection (14/07/05)	The Construction team replied to provide trip tray for all generators.	During the subsequent site inspection (21/07/05), it was found that the generator had been removed. Hence, the finding was completed and no further actions were required.
7	Water	The silt curtain was found partly enclosed the marine working areas at Node 2 and Node 3 during weekly site inspection (21/07/05).	The Construction team replied to enclose the all marine working areas completely by silt curtain and maintain the silt curtain properly.	During the subsequent site inspection (27/07/05), it was found that the silt curtain was fully enclosed the marine working area. Hence, the finding was completed and no further actions were required.

8.2 Status of Environmental Licensing and Permitting

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

Table 8.2 Summary of environmental licensing and permit status

Description	Permit No.	Valid Period		Section
		From	To	
Construction Noise Permit	GW-RN0266-05	01/07/05	31/12/05	Group A One Poker, vibrator, hand-held (CNP170) One Concrete pump, lorry mounted (CNP047) One Concrete lorry mixer (CNP044) Group B One Dump Truck (CNP067) One Excavator, tracked (CNP081)
Chemical Waste Producer	5113-729-LL1113-01	24/09/04	---	Spent lubricating oil, spent battery parts containing heavy metals
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)	8030	Reused in the Contract	46945
	Broken Concrete (m ³)	30	N/A	515
	Reused in the Contract (m ³)	8000	N/A	46500
	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)	0.03	N/A	37.371
	Paper/Cardboard Packaging (1000kg)	0	N/A	0.010
	Plastics (1000kg)	0	N/A	0.014
	Chemical Waste (1000kg)	0	N/A	1
	Other, e.g. General Refuse (1000kg)	3	SENT	63.29

10.0 IMPLEMENTATION STATUS

10.1 Implementation Status of Environmental Mitigation Measures

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

Air Quality



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

Noise

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

Water Quality

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

Waste Management

LWKJV has been implementing most mitigation measures on waste management.

10.2 Implementation Status of Event and Action Plan

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

10.3 Implementation Status of Environmental Complaint Handling

No complaints had been received during this monitoring month.

11.0 CONCLUSION

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

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

During this reporting month, no wastewater monitoring was carried out since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the monitoring had been carried out at 25 May 2005 by ET. The next wastewater monitoring should be at August 2005.

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	August 2005	September
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, 08, 13, 19, 25, 31	06, 12, 17, 23, 29
Site Inspection	04, 11, 18, 25	01, 08, 15, 22, 29

12.2 Upcoming construction works schedule in the coming month

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

Table 12.2 – Construction Plan in the coming month

Month	Works Planned to be Carried Out
Between August and September 2005	<ul style="list-style-type: none">▪ Drainage Works (excavation, pipe laying and breaking) at Section 5, 6, 7 and 8;▪ Construction of vertical seawall at Landscape Node P1, P2 and Public Landing Steps;▪ Construction of precast outfall;▪ Piling works at SA3;▪ Construction of parapet wall, kerb planter wall and feature wall at PSK waterfront promenade.

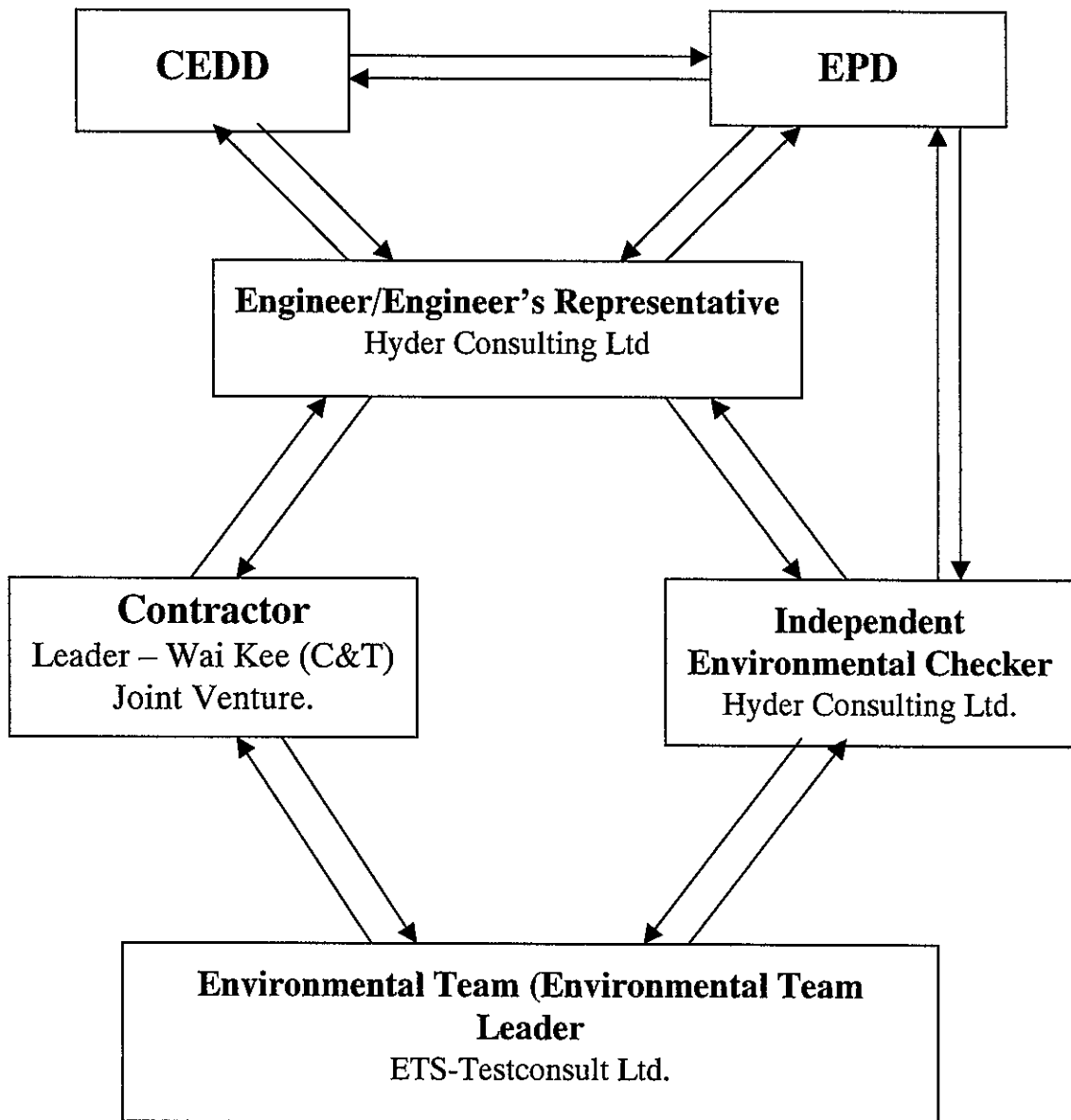


Appendix A

Organization Chart and Lines of Communication



Lines of Communication





Appendix B1

Calibration Certificates for Air Quality Monitoring Equipments



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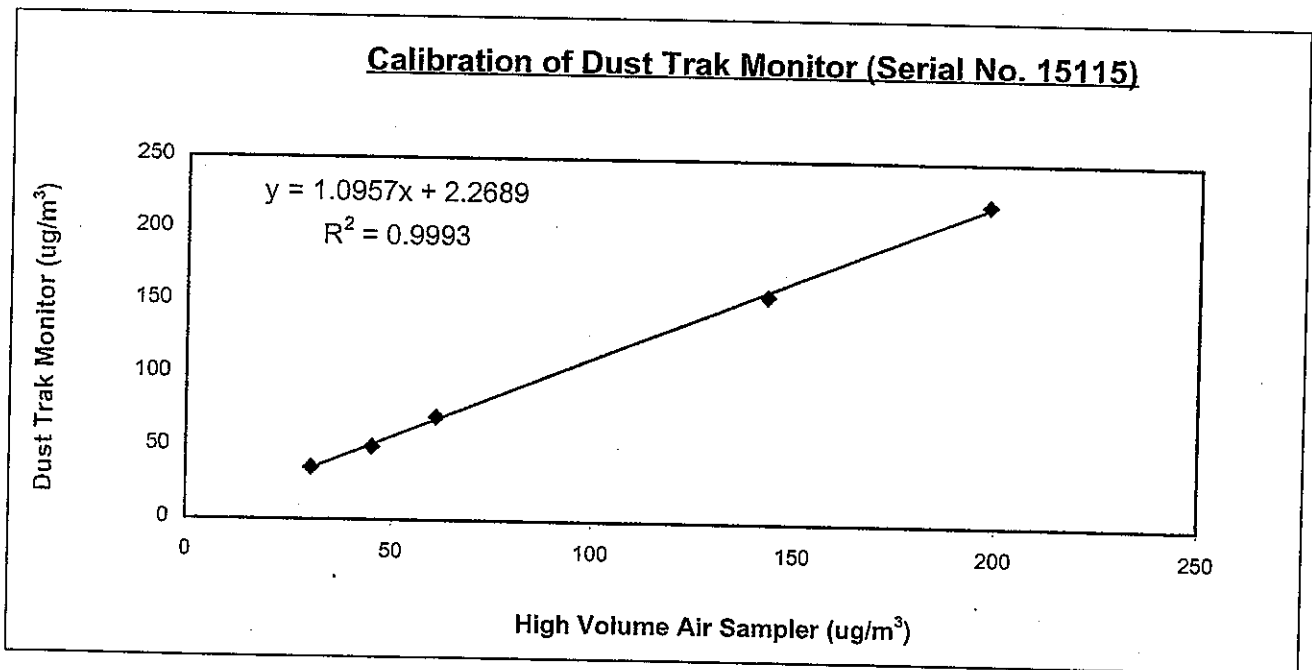
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong-Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Internal Calibration Report
of
Dust Trak Monitor


Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 18 March 2005
Serial No. : 15115 (EA/001/02) Calibration Due Date : 17 September 2005
Method : Place two Dust Trak Monitor together at same environment condition for parallel measurement with five point calibration


Results	Dust Trak Monitor (ug/m ³)	36	50	71	156	221
	High Volume Air Sampler (ug/m ³)	30	45	61	143	198
High Volume Air Sampler Serial No.: 1178		Calibration Date: 15 / 03 / 2005				



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 : 
Felix Tin
(Technician)

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



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TEST REPORT

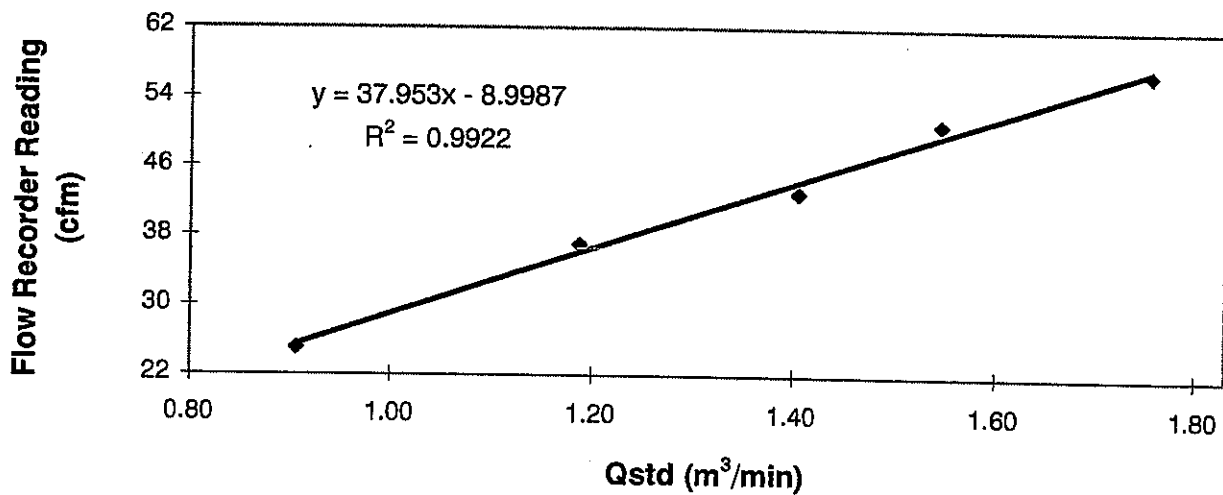
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 14 May 2005
Serial No. : 1178 (ET / EA / 003 / 01) Calibration Due Date : 13 July 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :


Flow recorder reading (cfm)	57	51	43	37	25
Qstd (Actual flow rate, m ³ /min)	1.75	1.55	1.40	1.19	0.91
Pressure :	754.56 mm Hg			Temp. :	302 K


Sampler1178 Calibration Curve
Site: Pak Shek Kok Monitoring Station AM1 (24hr.)
Date of Calibration: 14 May 2005

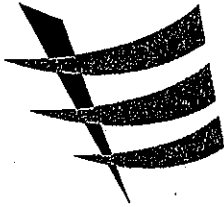


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5 point calibration

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

Calibrated by : 
Peter Leung
(Technician)

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



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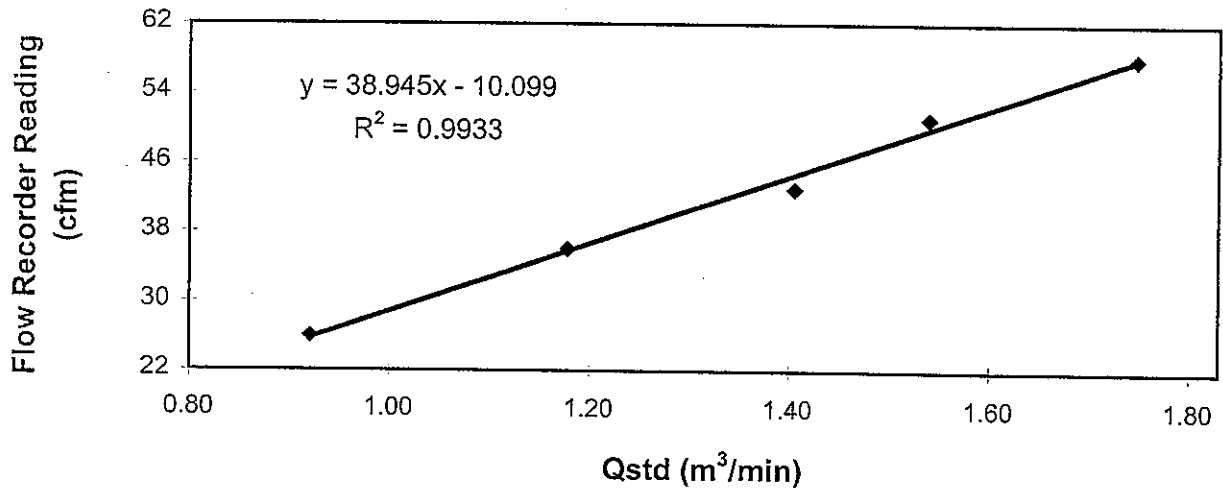
TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 13 July 2005
Serial No. : 1178 (ET/EA/003/01) Calibration Due Date : 12 September 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A


Results	Flow recorder reading (cfm)	58	51	43	36	26
	Qstd (Actual flow rate, m ³ /min)	1.75	1.54	1.41	1.18	0.92
	Pressure : 758.31 mm Hg	Temp. : 303 K				

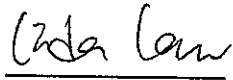
Sampler1178 Calibration Curve
Site: Pak Shek Kok Monitoring Station AM1 (24hr.)
Date of Calibration: 13 July 2005



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 : 
Peter Leung
(Technician)

Approved by : 
Linda Law
(Environmental Officer)



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TEST REPORT

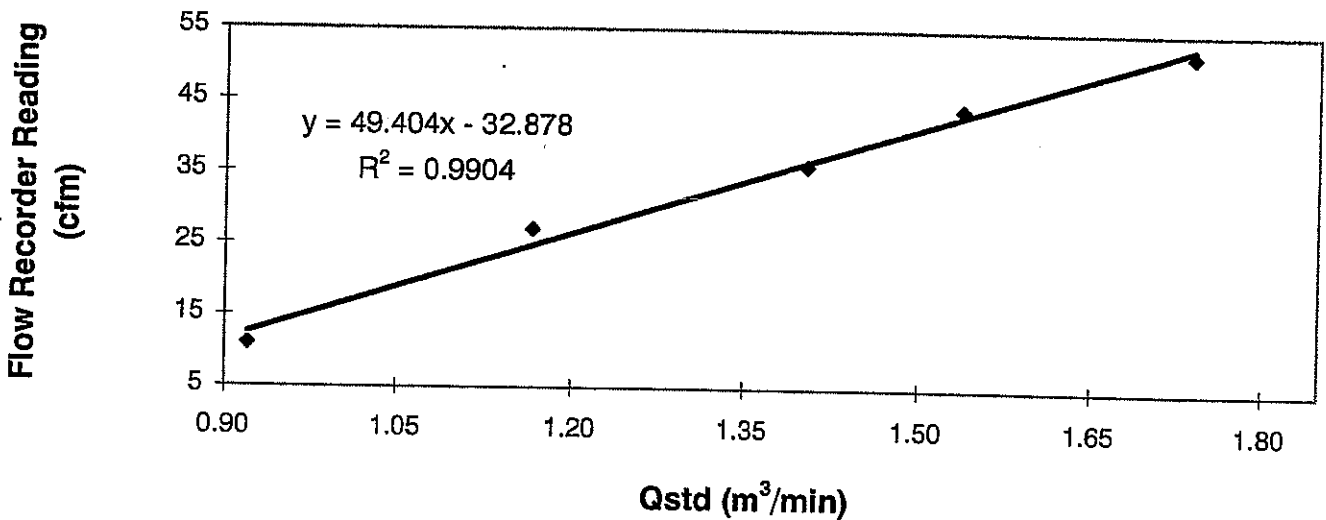
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 14 May 2005
Serial No. : 7179 (ET / EA / 003 / 16) **Calibration Due Date** : 13 July 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

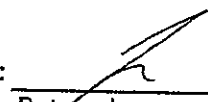
Flow recorder reading (cfm)	52	44	36	27	11
Qstd (Actual flow rate, m ³ /min)	1.74	1.54	1.40	1.17	0.92
Pressure :	754.56 mm Hg		Temp. :	302 K	

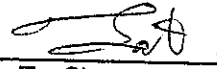
Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM3A)
Date of Calibration: 14 May 2005



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 : 
Peter Leung
(Technician)

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



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TEST REPORT

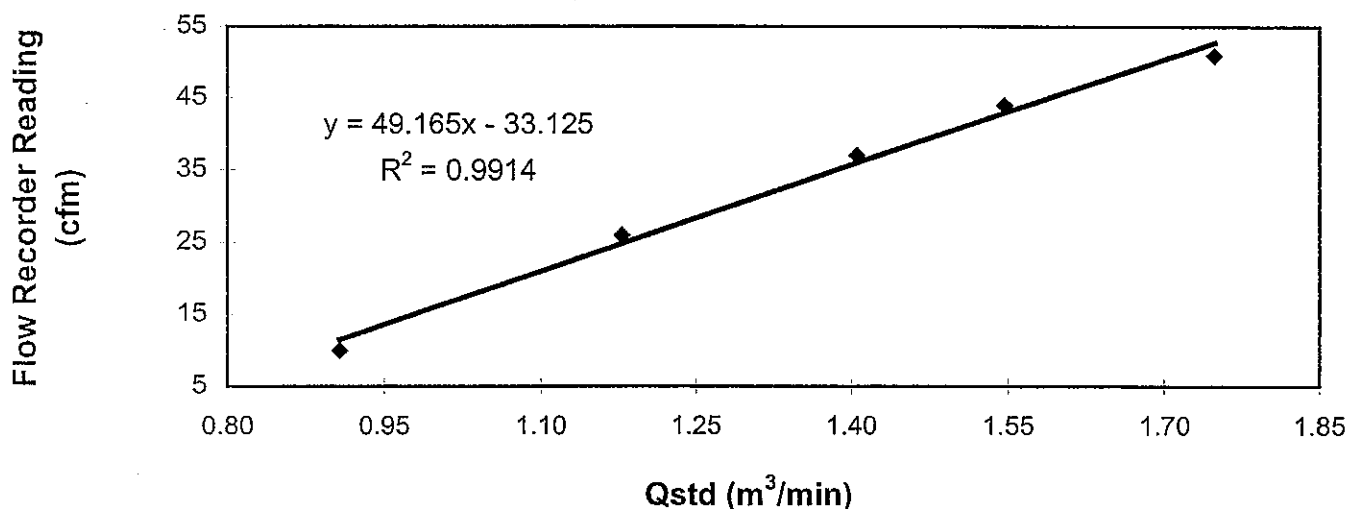
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 13 July 2005
Serial No. : 7179 (ET / EA / 003 / 16) Calibration Due Date : 12 September 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	51	44	37	26	10
Qstd (Actual flow rate, m ³ /min)	1.75	1.55	1.41	1.18	0.91
Pressure : 758.31 mm Hg	Temp. : 303 K				

Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM3A)
Date of Calibration: 13 July 2005



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 : Peter Leung
(Technician)

Approved by : Linda Law
Linda Law
(Environmental Officer)



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TEST REPORT

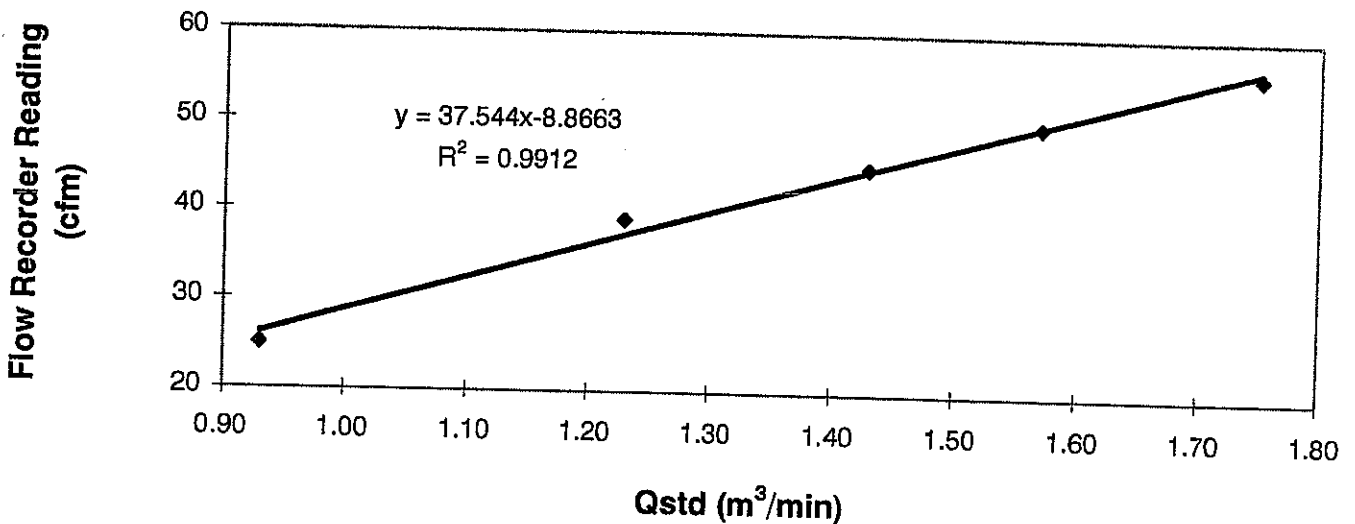
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 14 May 2005
Serial No. : 1172 (ET / EA / 003 / 11) Calibration Due Date : 13 July 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

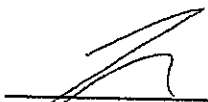
Flow recorder reading (cfm)	56	50	45	39	25
Qstd (Actual flow rate, m ³ /min)	1.75	1.57	1.43	1.23	0.93
Pressure :	754.56 mm Hg		Temp. :	302 K	


Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM5)
Date of Calibration: 14 May 2005



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 : 
Peter Leung
(Technician)

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



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TEST REPORT

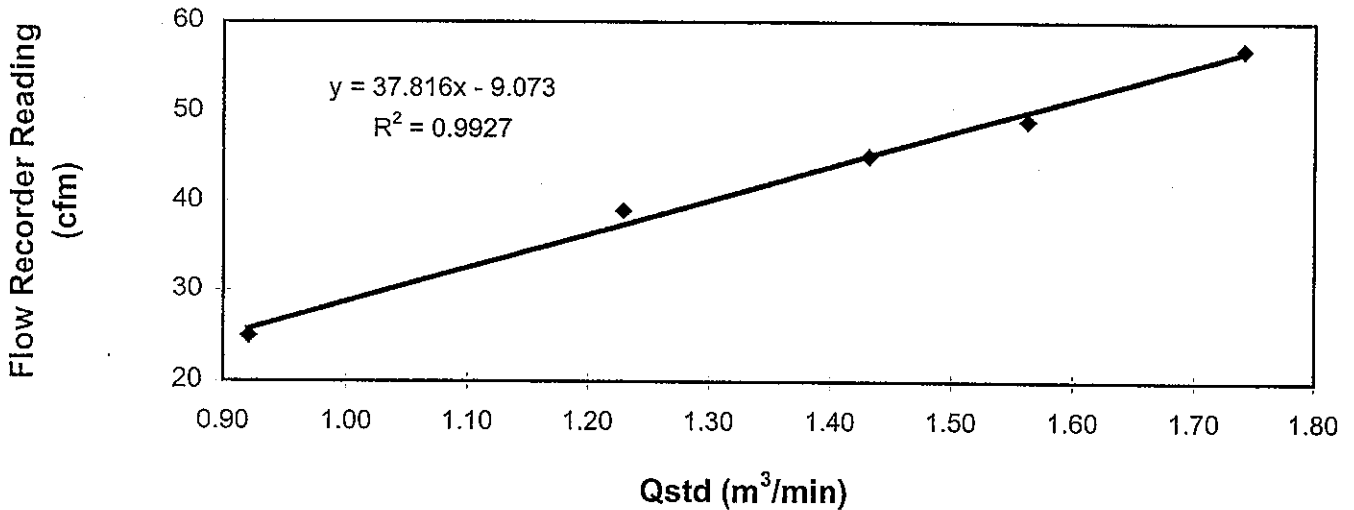
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 13 July 2005
Serial No. : 1172 (ET / EA / 003 / 11) **Calibration Due Date** : 12 September 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	57	49	45	39	25
Qstd (Actual flow rate, m ³ /min)	1.74	1.56	1.43	1.23	0.92
Pressure :	758.31 mm Hg		Temp. :	303 K	

Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM5)
Date of Calibration: 13 July 2005



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 : Peter Leung
 (Technician)

Approved by : Linda Law
 (Environmental Officer)



Appendix B2

Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1
Location : HKIB Staff Accommodation

Start Date	Start 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		
04/07/05	08:35	05/07/05	08:22	8740.05	8763.83	23.78	1.34	1.34	1.34	2.8434	2.9400	51	Sunny
09/07/05	10:28	10/07/05	10:22	8763.83	8787.73	23.90	1.26	1.26	1.26	2.8496	2.8869	21	Cloudy
15/07/05	10:00	16/07/05	09:25	8787.73	8811.14	23.41	1.26	1.26	1.26	2.8596	2.8985	22	Cloudy
21/07/05	15:45	22/07/05	15:51	8811.14	8835.24	24.10	1.26	1.26	1.26	2.8830	2.9399	31	Cloudy
27/07/05	09:18	28/07/05	09:14	8835.24	8859.15	23.91	1.26	1.26	1.26	2.9090	2.9779	38	Cloudy

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

Start Date	Start 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		
04/07/05	08:08	05/07/05	08:34	14080.78	14105.22	24.44	1.43	1.43	1.43	2.8546	2.8978	21	Sunny
09/07/05	15:45	10/07/05	15:43	14105.22	14129.18	23.96	1.41	1.41	1.41	2.8521	2.8944	21	Cloudy
15/07/05	09:37	16/07/05	09:45	14129.18	14153.31	24.13	1.41	1.41	1.41	2.9204	2.9899	34	Cloudy
21/07/05	13:05	22/07/05	13:38	14153.31	14177.86	24.55	1.43	1.43	1.43	2.8530	2.9178	31	Cloudy
27/07/05	09:45	28/07/05	10:01	14177.86	14202.13	24.27	1.43	1.43	1.43	2.8961	2.9566	29	Cloudy

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

Start Date	Start 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		
04/07/05	08:20	05/07/05	08:33	4117.67	4141.88	24.21	1.20	1.20	1.20	2.8549	2.8907	21	Sunny
09/07/05	09:05	10/07/05	09:22	4141.88	4166.17	24.29	1.20	1.20	1.20	2.8638	2.8992	20	Cloudy
15/07/05	09:50	16/07/05	09:32	4166.17	4189.87	23.70	1.20	1.20	1.20	2.8412	2.8989	34	Cloudy
21/07/05	14:25	22/07/05	14:47	4189.87	4214.24	24.37	1.25	1.25	1.25	2.8456	2.9009	30	Cloudy
27/07/05	09:30	28/07/05	09:34	4214.24	4238.31	24.07	1.20	1.20	1.20	2.9068	2.9540	27	Cloudy

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM1 (HKIB Staff Accommodation)

Date	Monitoring Period			1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish		Minimum	Maximum	Average	
02/07/05	14:25	15:25		96	451	128	Sunny
05/07/05	10:20	11:20		106	429	203	Sunny
07/07/05	13:48	14:48		66	364	153	Rainy
09/07/05	10:20	11:20		97	389	160	Cloudy
12/07/05	10:15	11:15		100	439	127	Sunny
14/07/05	11:00	12:00		84	397	170	Sunny
16/07/05	10:30	11:30		103	405	198	Sunny
19/07/05	08:15	09:15		128	459	205	Sunny
21/07/05	15:40	16:40		98	417	125	Cloudy
23/07/05	09:35	10:35		117	410	170	Sunny
26/07/05	14:20	15:20		92	421	116	Sunny
28/07/05	08:30	09:30		89	402	186	Cloudy
30/07/05	14:20	15:20		64	337	87	Rainy

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

Date	Monitoring Period			1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish		Minimum	Maximum	Average	
02/07/05	13:00	14:00		87	413	99	Sunny
05/07/05	09:00	10:00		89	358	158	Sunny
07/07/05	15:02	16:02		54	299	151	Rainy
09/07/05	15:40	16:40		64	324	128	Cloudy
12/07/05	16:40	17:40		89	201	90	Sunny
14/07/05	13:15	14:15		74	332	95	Sunny
16/07/05	16:00	17:00		78	340	143	Sunny
19/07/05	13:00	14:00		97	360	179	Sunny
21/07/05	13:00	14:00		90	306	89	Cloudy
23/07/05	15:50	16:50		89	358	135	Sunny
26/07/05	13:00	14:00		71	361	87	Sunny
28/07/05	15:30	16:30		76	354	128	Cloudy
30/07/05	11:00	12:00		60	360	73	Rainy

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM5 – Near Wen Vhieh Tand at the CUHK

Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
02/07/05	18:00	19:00	91	424	122	Sunny
05/07/05	15:00	16:00	91	362	147	Sunny
07/07/05	16:12	17:12	49	268	138	Rainy
09/07/05	09:00	10:00	59	315	116	Cloudy
12/07/05	13:00	14:00	93	432	113	Sunny
14/07/05	17:35	18:35	65	318	98	Sunny
16/07/05	17:20	18:20	72	336	128	Sunny
19/07/05	11:00	12:00	108	371	186	Sunny
21/07/05	14:20	15:20	95	409	114	Cloudy
23/07/05	10:50	11:50	82	347	131	Sunny
26/07/05	18:00	19:00	98	409	100	Sunny
28/07/05	09:40	10:40	62	327	107	Cloudy
30/07/05	13:00	14:00	68	347	85	Rainy

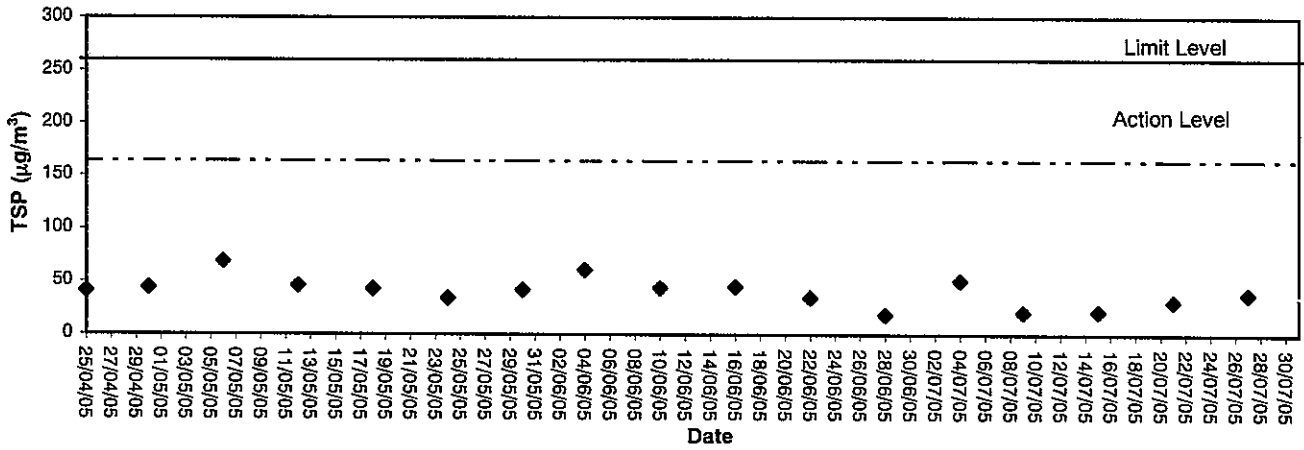


Appendix B3

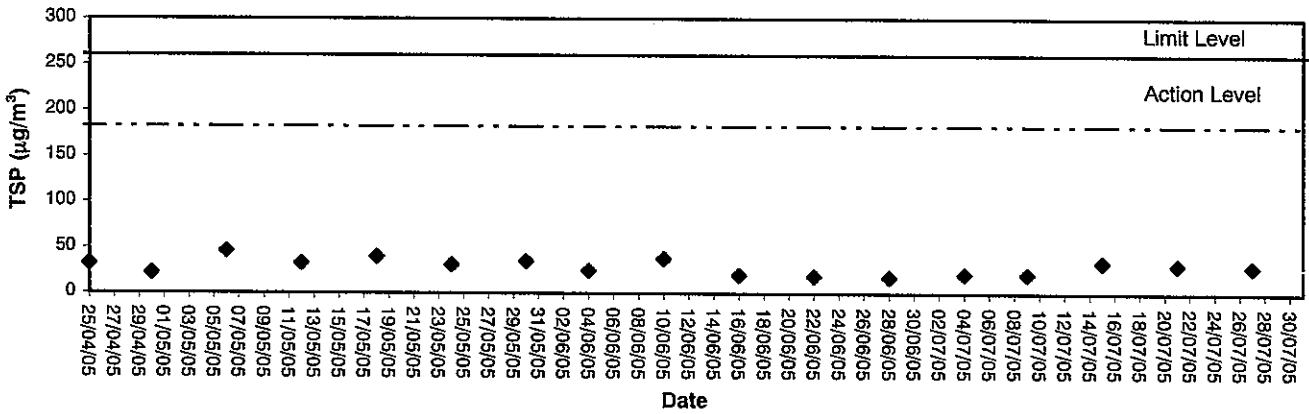
Graphical Plots of Air Quality Monitoring Data



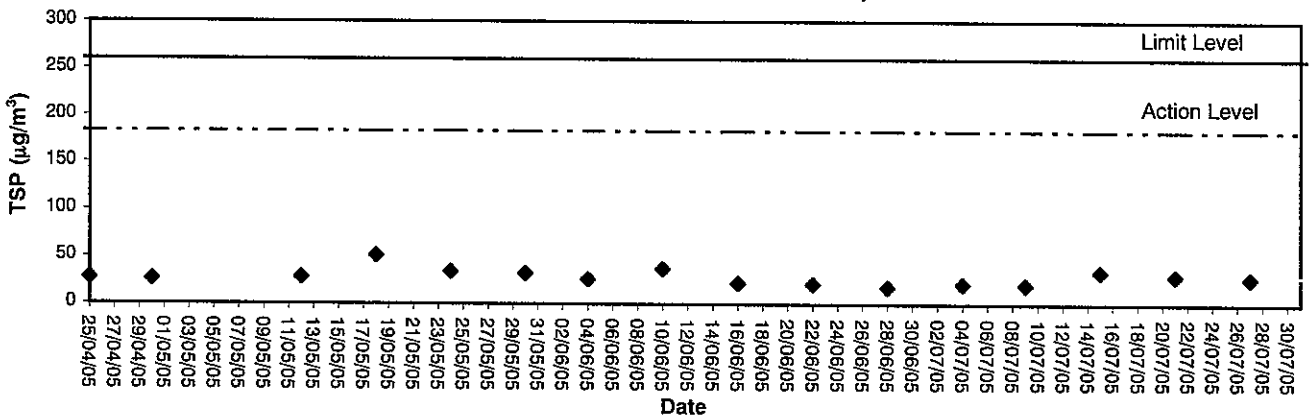
24-hour TSP level at AM1 (HKIB Staff Accommodation)



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

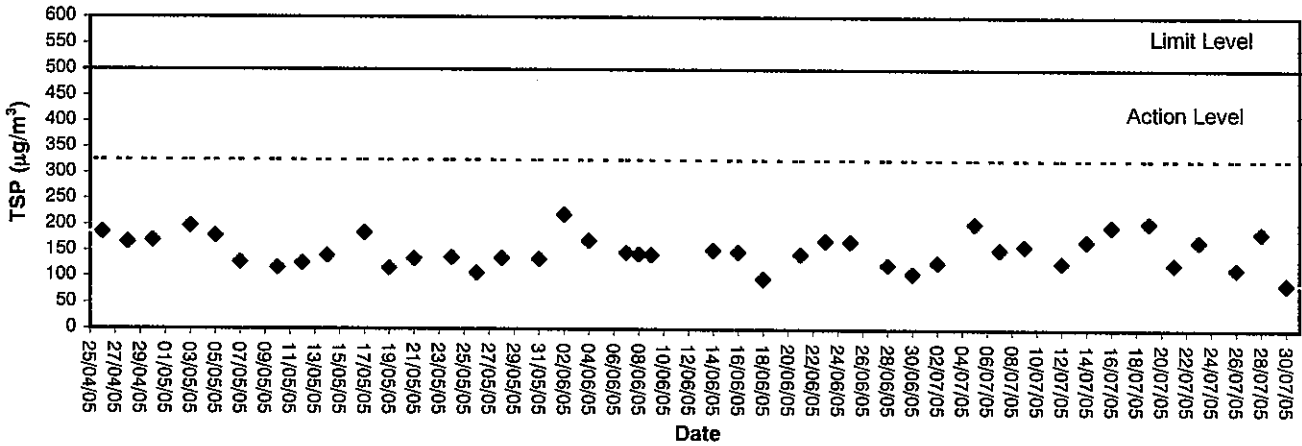


**24-hour TSP level at AM5
(Wen Chih Tang at the CUHK)**

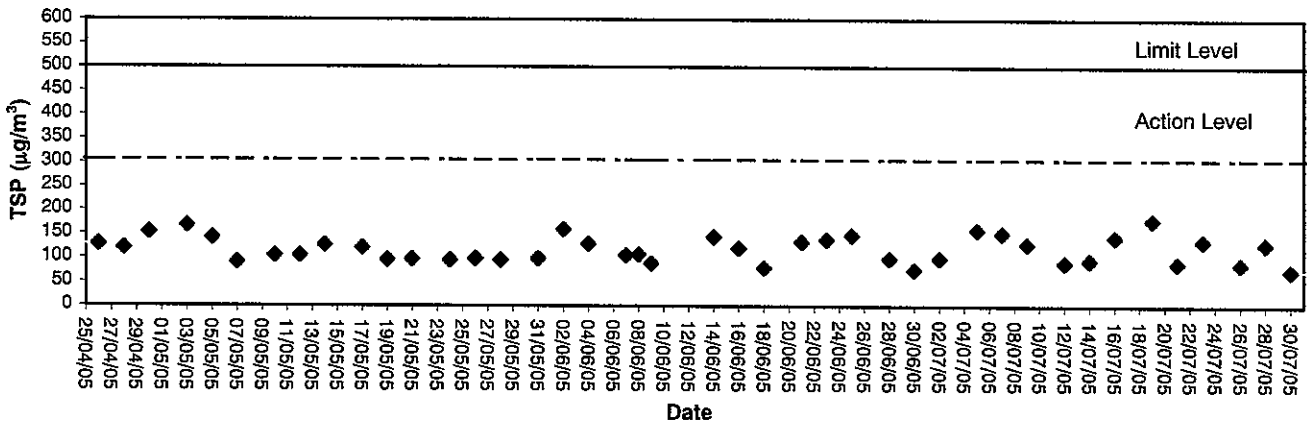




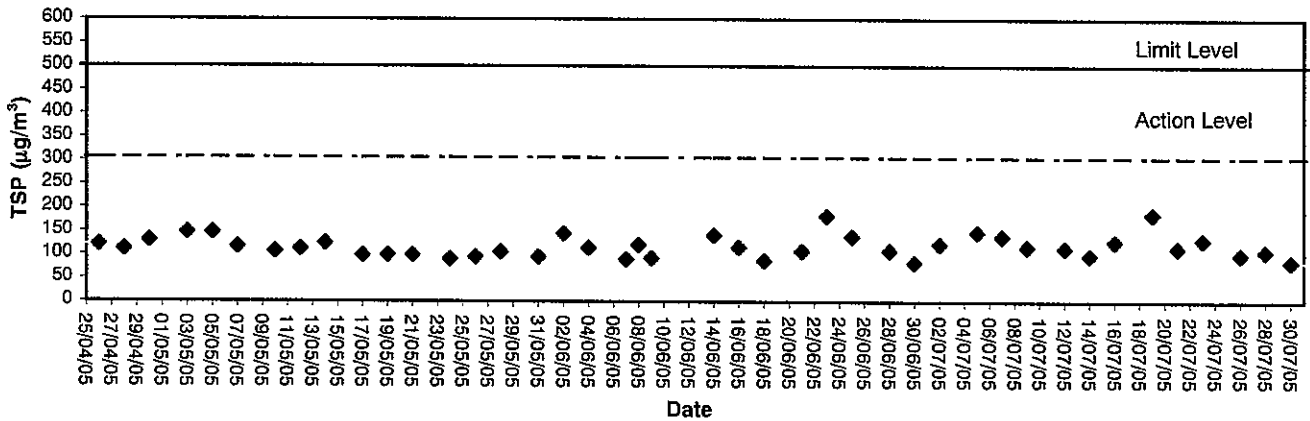
1-hour TSP level at AM1, HKIB Staff Accommodation



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



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





Appendix C1

Calibration Certificates for Noise Monitoring Equipments



Hong Kong Calibration Ltd.

香港校正有限公司

Calibration Certificate

Certificate No. 51472

Page 1 of 3 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q50535

Date of receipt : 7-Apr-05

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00531142

Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

Ambient Temperature : $(22.5 \pm 2.5)^{\circ}\text{C}$

Relative Humidity : $(50 \pm 20) \%$

Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : Z01.

Test Results

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

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

Test equipment used:

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

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

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

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

Calibrated by : 

Approved by : 

Alan Chu - Manager

This Certificate is issued by:

Hong Kong Calibration Ltd.

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

Tel: 2425 8801 Fax: 2425 8646

Date: 20-Apr-05



Calibration Certificate

Certificate No. 51472

Page 2 of 3 Pages

Results :

1. SPL Accuracy

UUT Setting			UUT Reading (dB)	Correction (dB)
Level Range (dB)	Weight	Response		
20 - 100	L _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		0.0
	L _p	Fast		0.0
30 - 120	L _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		+ 0.1
	L _p	Fast		+ 0.1
30 - 120	L _A	Fast	114.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		0.0
	L _p	Fast		0.0

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. 51472

Page 3 of 3 Pages

3. Frequency Weighting

A weighting

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

Uncertainty : ± 0.1 dB

4. Time Averaging

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

Uncertainty : ± 0.1 dB

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

----- END -----



Calibration Certificate

Certificate No. 51473

Page 1 of 2 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q50535

Date of receipt : 7-Apr-05

Item Tested

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

Manufacturer : Rion

Model : NC-73

Serial No. : 10196943

Test Conditions

Date of Test : 20-Apr-05.

Supply Voltage : --

Ambient Temperature : (22.5 ± 2.5)°C

Relative Humidity : (50 ± 20) %

Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : F21, Z02.

Test Results

All results were within the manufacturer's specification.

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

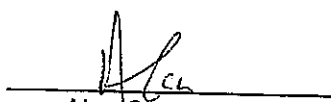
Test equipment used:

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

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

The test equipment used for calibration are traceable to International System of Units (SI).
The test results apply to the above Unit-Under-Test only

Calibrated by : 

Approved by : 
Alan Chu - Manager

Date: 20-Apr-05



Calibration Certificate

Certificate No. 51473

Page 2 of 2 Pages

Results :

1. Level Accuracy (at 1 kHz)

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

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

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

Uncertainty : ± 0.1 %

3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 0.3 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

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

3. Atmospheric Pressure : 1 000 hPa

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

----- END -----



Appendix C2

Noise Monitoring Results



Day-time Noise Monitoring

Monitoring Location: NM1 (HKIB Staff Accommodation)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq(30min)}	L10	L90		
02/07/05	14:39	58.6	59.6	51.6	1.3	Sunny
05/07/05	10:23	58.0	60.3	53.5	1.0	Sunny
12/07/05	10:20	59.5	60.9	53.5	1.4	Sunny
19/07/05	08:17	59.2	61.5	55.8	1.0	Sunny
26/07/05	14:25	59.1	60.9	55.1	1.5	Sunny

Monitoring Location: NM2 (CUHK Residence No.10)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq(30min)}	L10	L90		
02/07/05	18:05	55.7	57.0	50.3	1.2	Sunny
05/07/05	16:15	55.0	57.5	52.5	0.6	Sunny
12/07/05	11:30	58.0	59.8	52.5	1.3	Sunny
19/07/05	15:45	55.0	57.1	51.4	0.6	Sunny
26/07/05	18:30	56.6	57.9	53.3	1.2	Sunny

Mon Monitoring Location: NM3 (Cheung Shue Tan Village)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq(30min)}	L10	L90		
02/07/05	13:03	53.9	55.3	47.9	1.1	Sunny
05/07/05	09:05	54.1	56.4	51.2	0.6	Sunny
12/07/05	16:45	56.1	57.5	50.4	1.0	Sunny
19/07/05	13:02	53.8	56.1	49.9	0.9	Sunny
26/07/05	13:05	55.1	56.4	52.1	1.0	Sunny

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

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq(30min)}	L10	L90		
02/07/05	13:53	56.4	57.7	50.3	1.4	Sunny
05/07/05	15:05	54.4	57.3	51.8	0.7	Sunny
12/07/05	13:03	59.1	60.5	53.0	1.4	Sunny
19/07/05	11:02	65.0	57.0	52.1	0.7	Sunny
26/07/05	17:45	58.6	60.6	53.5	1.4	Sunny

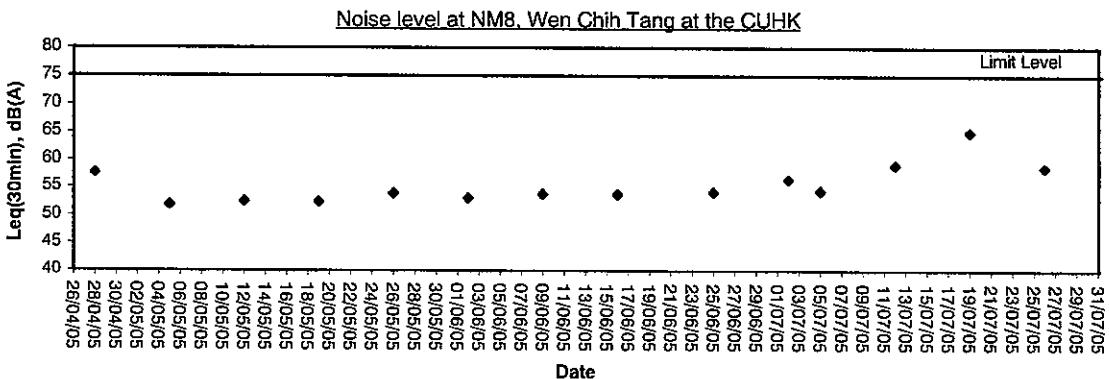
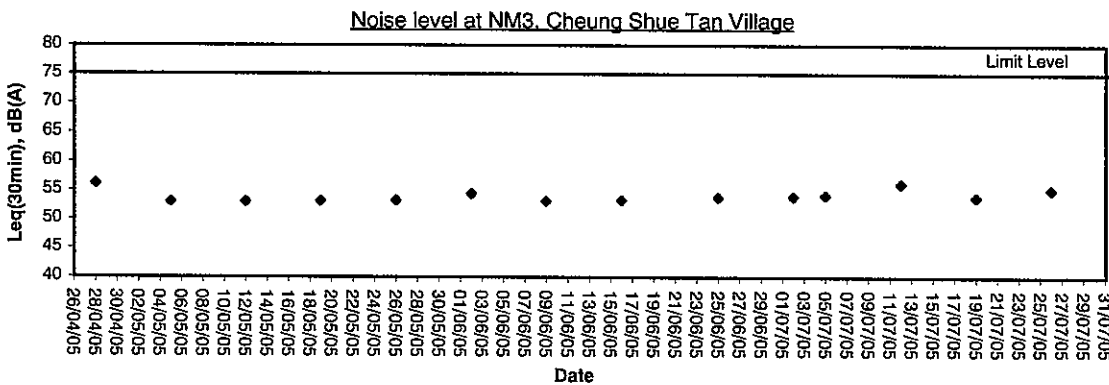
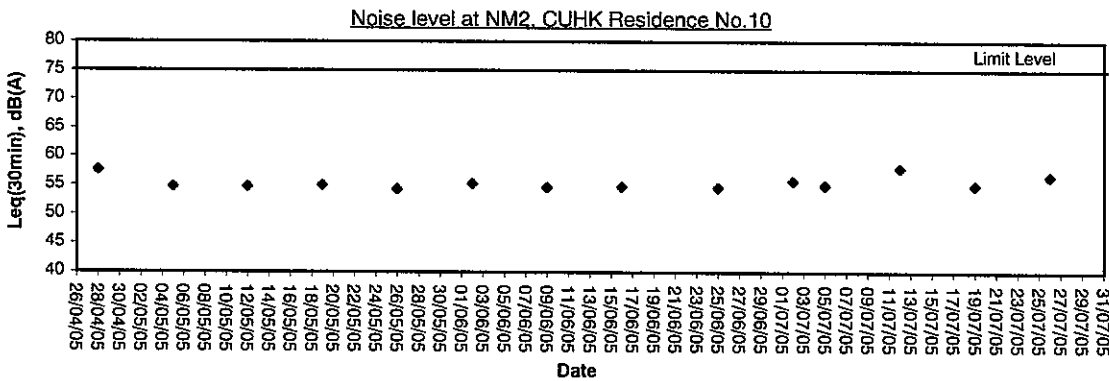
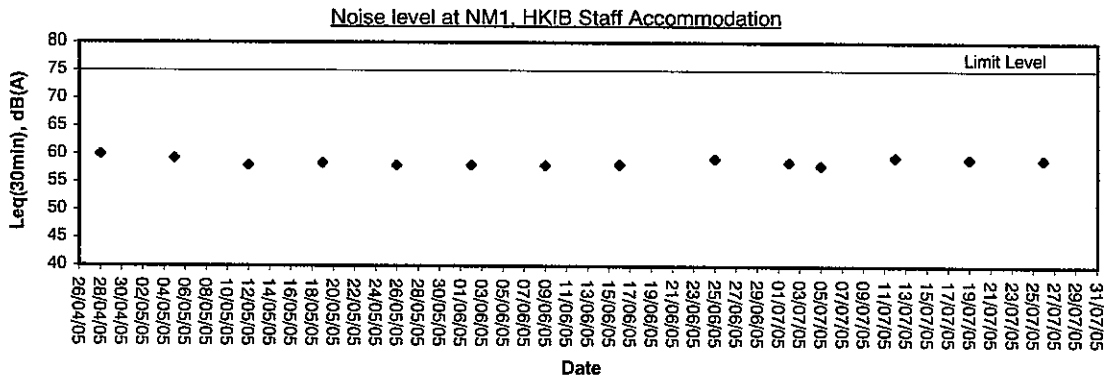


Appendix C3

Graphical Plots of Noise Monitoring Data



Noise Monitoring (Day-time)





Appendix D

Weather Condition



Weather Condition

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
01/07/05	18.4	29.8	24.7	90	SE	<5
02/07/05	-	31.0	26.7	87	SE	<5
03/07/05	-	32.1	27.4	82	SE	<5
04/07/05	-	33.2	28.0	78	S	<5
05/07/05	-	33.3	28.0	75	SW	<5
06/07/05	-	33.0	27.6	74	W	<5
07/07/05	38.1	29.4	26.0	85	N	<5
08/07/05	Trace	31.0	26.9	77	SW	<5
09/07/05	33.5	29.1	24.9	86	S	<5
10/07/05	4.3	31.8	26.4	80	S	<5
11/07/05	-	32.5	27.8	75	S	<5
12/07/05	-	32.5	28.0	73	SW	<5
13/07/05	0.2	32.5	28.0	75	SW	<5
14/07/05	-	32.6	28.3	75	SW	<5
15/07/05	-	33.3	28.2	77	SE	<5
16/07/05	Trace	33.0	28.6	74	NE	<5
17/07/05	-	33.1	28.2	71	W	<5
18/07/05	-	34.4	29.0	72	W	<5
19/07/05	28.5	35.4	26.9	69	W	<5
20/07/05	20.4	34.4	24.6	76	W	<5
21/07/05	4.4	32.9	24.8	79	W	<5
22/07/05	79.7	29.0	24.8	89	NE	<5
23/07/05	-	30.2	26.1	82	NE	<5
24/07/05	-	31.4	26.7	82	NE	<5
25/07/05	-	32.7	27.0	76	N	<5
26/07/05	-	32.5	26.9	75	SW	<5
27/07/05	-	31.8	27.6	78	E	<5
28/07/05	0.8	31.8	28.0	81	E	<5
29/07/05	35.4	28.7	25.5	92	E	<5
30/07/05	47.3	28.8	26.0	94	SE	<5
31/07/05	49.5	28.3	26.0	94	SE	<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 Construction Noise

EVENT	ACTION			CNTRACTOR
	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

Act ID	Description	Orig	Total Dir	Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02MBPR0500	Precliffing (Pier 2)	30			100	27AUG04	24SEP04	27AUG04	24SEP04
02MBPR0600	Precliffing (North Abutment)	24	220f		0	26JAN05	28FEB05	22OCT05	18NOV05
02MBPR0700	Submit Proposed Founding Level (P1-P8)	12			100	08NOV04	08NOV04	08NOV04	08NOV04
02MBPR0800	Engineer Approval of P1-P8 Founding Level	12	15f		99	09NOV04	27JAN05	09NOV04	17FEB05
02MBPR0900	Submit Proposed Founding Level (P9-P11)	6			100	08NOV04	08NOV04	08NOV04	08NOV04
02MBPR1000	Engineer Approval of P9-P11 Founding Level	12	101d		99	09NOV04	27JAN05	09NOV04	30MAY05
02MBPR1100	Submit Proposed Founding Level (Pier 2)	6			100	06NOV04	06NOV04	06NOV04	06NOV04
02MBPR1200	Engineer Approval of Pier 2 Founding Level	12	161d		99	09NOV04	27JAN05	09NOV04	19AUG05
02MBPR1300	Submit Proposed Founding Level (N-Abutment)	12	131d		99	08NOV04	27JAN05	08NOV04	06JUL05
02MBPR1400	Engineer Approval of N-Abutment Founding Level	12	220f		0	01MAR05	07MAR05	19NOV05	28NOV05
02MBPR1500	Engineer Approval of N-Abutment Founding Level	12	220f		0	03MAR05	21MAR05	28NOV05	08DEC05
Piling Works									
02MBPW0100	Mobilization of Piling Plants	6	16d		0	24JAN05	03FEB05	18FEB05	24FEB05
02MBPW0200	Construct Pile P1 - P8	60	15d		0	03FEB05	12MAY05	25FEB05	30MAY05
02MBPW0300	Construct Pile P9 - P11	30	15d		0	13MAY05	17JUN05	31MAY05	06JUL05
02MBPW0400	Construct Pier 1 Piles	30	15d		0	18JUN05	23JUL05	07JUL05	10AUG05
02MBPW0500	Construct Pier 2 Piles	30	15d		0	25JUL05	27AUG05	11AUG05	14SEP05
02MBPW0600	Construct N-Abutment Piles	40	86d		0	29AUG05	17OCT05	10DEC05	25JAN06
Voided Abutment									
02MBVA0100	Construct Ground Beams (Stage 1)	12	57d		0	13MAY05	26MAY05	21JUL05	03AUG05
02MBVA0200	Construct Ground Beams (Stage 2)	12	57d		0	27MAY05	09JUN05	04AUG05	17AUG05
02MBVA0300	Construct Ground Beams (Stage 3)	12	84d		0	10JUN05	24JUN05	20SEP05	04OCT05
02MBVA0400	Construct Ground Beams (Stage 4)	12	84d		0	25JUN05	09JUL05	05OCT05	19OCT05
02MBVA0500	Construct Ground Beams (Stage 5)	12	84d		0	11JUL05	23JUL05	20OCT05	02NOV05
02MBVA0600	Construct Wall (Stage 1)	18	57d		0	10JUN05	02JUL05	18AUG05	07SEP05
02MBVA0700	Construct Wall (Stage 2)	15	57d		0	04JUL05	20JUL05	08SEP05	28SEP05
02MBVA0800	Construct Wall (Stage 3)	15	57d		0	21JUL05	06AUG05	27SEP05	16OCT05
02MBVA0900	Construct Wall (Stage 4)	15	57d		0	08AUG05	24AUG05	17OCT05	02NOV05
02MBVA1000	Construct Wall (Stage 5)	18	57d		0	25AUG05	14SEP05	03NOV05	23NOV05
02MBVA1100	Construct Slab	24	183d		0	15SEP05	15OCT05	21APR06	22MAY06
Pier 1									
02MBPA0100	Construct Pile Cap	8	75d		0	25JUL05	02AUG05	24OCT05	01NOV05
02MBPA0200	Construct Columns	12	75d		0	03AUG05	18AUG05	02NOV05	15NOV05
Pier 2									
02MBPB0100	Construct Pile Cap	8	65d		0	29AUG05	06SEP05	18NOV05	24NOV05
02MBPB0200	Construct Columns	12	65d		0	07SEP05	21SEP05	25NOV05	08DEC05
North Abutment									
02MBNA0100	Construct Pile Cap	18	86d		0	18OCT05	07NOV05	26JAN06	17FEB06
02MBNA0200	Construct Abutment Walls	24	86d		0	08NOV05	05DEC05	18FEB06	17MAR06
02MBNA0300	Construct Wing Walls	35	33d		0	03DEC05	16JAN06	27MAR06	09MAY06
Bridge Deck - Voided Abutment to Pier 1									
02MBDA0100	Erect Scaffolding	6	57d		0	15SEP05	24SEP05	24NOV05	02DEC05
02MBDA0200	Erect Formwork (Bottom Slab)	8	69d		0	26SEP05	05OCT05	17DEC06	28DEC05
02MBDA0300	Steel Fixing	8	69d		0	06OCT05	15OCT05	27DEC06	04JAN06
02MBDA0400	Erect Formwork (Kicker)	1	69d		0	17OCT05	25OCT05	05JAN06	13JAN06
02MBDA0500	Concreting	8	69d		0	26OCT05	26OCT05	14JAN06	14JAN06
02MBDA0600	Erect Formwork (Diaphragm & Top Slab)	6	69d		0	27OCT05	04NOV05	16JAN06	24JAN06
02MBDA0700	Steel Fixing	6	69d		0	05NOV05	11NOV05	25JAN06	02FEB06
02MBDA0800	Concreting	1	69d		0	12NOV05	12NOV05	03FEB06	03FEB06

Legend

- Start date
- Finish date
- Early start point
- Early finish point
- Run date
- Target start point
- Target finish point
- Progress bar
- Summary bar
- Critical bar
- Sitri milestone point
- Finish milestone point

WAI KEE

LEADER

ZENS

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Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
02SCR0900	Watermain - Lay PVM Crossing (TTA No. 03)	18	154	0	19OCT05	08NOV06	07NOV06	28NOV06	
02SCUT1000	Install Public Lighting Post	8	160	0	24NOV05	02DEC06	15DEC06	28DEC06	
Public Lighting, Duct and Kerb									
02SCPK0100	Lay Kerb (TTA No. 04 & 08)	8	41d	0	11SEP06	19SEP06	31OCT06	08NOV06	
02SCP0200	Lay Kerb (TTA No. 09)	6	15d	0	17NOV06	23NOV06	05DEC06	11DEC06	
02SCP0300	Lighting Drawpit & Cable Duct (TTA No. 04 & 08)	6	41d	0	01SEP06	09SEP06	20OCT06	28OCT06	
02SCP0400	Lighting Drawpit & Cable Duct (TTA No. 09)	6	15d	0	10NOV06	18NOV06	28NOV06	04DEC06	
Roads and Pavement									
02SCR0100	Trim Formation & Lay Subbase (TTA No. 04 & 08)	12	41d	0	20SEP06	03OCT06	09NOV06	20NOV06	
02SCR0200	Road Pavement (TTA No. 04 & 08)	12	41d	0	04OCT06	18OCT06	23NOV06	06DEC06	
02SCR0300	Road Pavement (TTA No. 09)	8	15d	0	24NOV06	02DEC06	12DEC06	20DEC06	
Road Marking, Traffic Signs and Fencing									
02SCR0400	Apply Road Marking	3	15d	0	04DEC06	06DEC06	21DEC06	31DEC06	
02SCR0500	Erect Signs	12	41d	0	18OCT06	02NOV06	07DEC06	20DEC06	
02SCR0600	Install Railing, Fencing & etc	12	41d	0	19OCT06	02NOV06	07DEC06	20DEC06	
Existing Su Chuan Street Roundabout									
02SRPK0100	Laying Lighting Cross Road Duct (TTA No. 06)	4	86d	0	24JUN06	26JUN06	04OCT06	19OCT06	
02SRPK0200	Laying Lighting Cross Road Duct (TTA No. 08)	4	86d	0	13JUL06	17JUL06	23OCT06	26OCT06	
Roads and Pavement									
02SRPK0100	Demolish Existing Island (TTA No. 05)	8	86d	0	15JUN06	23JUN06	25SEP06	03OCT06	
02SRPK0200	Construct Proposed Island (TTA No. 05)	8	86d	0	29JUN06	08JUL06	10OCT06	18OCT06	
02SRPK0300	Demolish Existing Kerb (TTA No. 06)	2	86d	0	11JUL06	12JUL06	20OCT06	21OCT06	
02SRPK0400	Lay Kerb (TTA No. 06)	8	86d	0	18JUL06	28JUL06	27OCT06	06NOV06	
02SRPK0500	Demolish Existing Roundabout (TTA No. 07)	8	86d	0	03JUL06	09AUG06	19NOV06	18NOV06	
02SRPK0600	Reconstruct Roundabout (TTA No. 07)	8	86d	0	09AUG06	17AUG06	28NOV06	28NOV06	
02SRPK0700	Reinstate Road Pavement (TTA No. 08)	2	86d	0	27JUL06	28JUL06	07NOV06	09NOV06	
02SRPK0800	Resurfacing Wearing Course	8	86d	0	18AUG06	28AUG06	28NOV06	07DEC06	
Road Marking, Traffic Signs and Fencing									
02SRPK0100	Apply Road Marking	2	86d	0	11SEP06	12SEP06	23DEC06	20DEC06	
02SRPK0200	Erect Signs	12	86d	0	28AUG06	09SEP06	08DEC06	21DEC06	
02SRPK0300	Install Railing, Fencing & etc	12	86d	0	28AUG06	09SEP06	08DEC06	21DEC06	
Existing Ma Liu Shui Bridge									
02EBU1000	Install Public Lighting Post	6	21d	0	30SEP06	10OCT06	28OCT06	04NOV06	
Utility Works									
02EBPK0100	Lay Kerb (TTA No. 03)	8	40d	0	28JUN06	08JUL06	16AUG06	24AUG06	
02EBPK0200	Cable Duct Laying on Island (TTA No. 06)	5	35d	0	24AUG06	30AUG06	10OCT06	18OCT06	
02EBPK0300	Cable Duct Laying on Reserve (TTA No. 08)	6	21d	0	02SEP06	08SEP06	27SEP06	03OCT06	
Roads and Pavement									
02EBRP0100	Demolish Existing Parapet (TTA No. 03)	12	25d	0	15JUN06	26JUN06	20JUL06	02AUG06	
02EBRP0200	Demolish Island & Paved Area (TTA No. 03)	12	40d	0	15JUN06	26JUN06	02AUG06	15AUG06	
02EBRP0300	Road Pavement (TTA No. 03)	8	40d	0	10JUL06	18JUL06	25AUG06	02SEP06	
02EBRP0400	Construct Roundabout on V-Abutment (TTA No. 03)	8	29d	0	29JUN06	08JUL06	03AUG06	11AUG06	
02EBRP0500	Remove Pavement at Proposed Island (TTA No. 08)	4	35d	0	19AUG06	23AUG06	04OCT06	09OCT06	
02EBRP0600	Construct Traffic Island (TTA No. 08)	8	35d	0	31AUG06	08SEP06	17OCT06	25OCT06	
02EBRP0700	Construct Remaining Roundabout (TTA No. 08)	12	82d	0	19AUG06	01SEP06	25NOV06	20DEC06	
02EBRP0800	Demolish Existing Central Reserve (TTA No. 08)	12	21d	0	19AUG06	01SEP06	13SEP06	26SEP06	
02EBRP0900	Construct New Central Reserve (TTA No. 08)	18	21d	0	08SEP06	29SEP06	04OCT06	25OCT06	
Road Marking, Traffic Signs and Fencing									
02EBRM0100	Apply Road Marking (TTA No. 03)	1	40d	0	19JUL06	19JUL06	04SEP06	14SEP06	
02EBRM0200	Apply Road Marking (TTA No. 08)	1	56d	0	15OCT06	15OCT06	23DEC06	23DEC06	

WAI KEE

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Legend:

- Early start point
- Early finish point
- Target start point
- Target finish point
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

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Act ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02EBR400	Erect Signage	12	56d	0	30SEP06	14OCT06	09DEC06	22DEC06
02EBR400	Install Railing, Fencing & etc	12	56d	0	30SEP06	14OCT06	09DEC06	22DEC06
Car Park and Access Road								
Drainage Works								
02CPDW1200	S682 - Eddling Culvert	21	165d	0	26JAN06	21FEB06	18AUG06	11SEP06
02CPDW1300	CF632 - S684	16	165d	0	22FEB06	11MAR06	12SEP06	29SEP06
Utility Works								
02CPUT0300	Install Public Lighting Post	8	187d	0	06MAY06	16MAY06	16DEC06	26DEC06
02CPFR0100	Construct Dwarf Wall	23	159d	0	13MAR06	06APR06	30SEP06	27OCT06
02CPFR0200	Lay Kerb	6	165d	0	27APR06	05MAY06	15NOV06	24NOV06
02CPFR0300	Public Lighting Controller	10	200d	0	10APR06	20APR06	05DEC06	15DEC06
02CPFR0400	Lighting Drawpit & Cable Duct	15	169d	0	10APR06	26APR06	28OCT06	19NOV06
Roads and Pavement								
02CPFR0100	Trim Formation & Lay Subbase	8	177d	0	08MAY06	16MAY06	05DEC06	13DEC06
02CPFR0200	Road Pavement	8	177d	0	17MAY06	25MAY06	14DEC06	22DEC06
02CPFR0300	Construct Footpath	18	189d	0	09MAY06	27MAY06	25NOV06	15DEC06
Road Marking, Traffic Sign and Fencing								
02CPRM0200	Apply Road Marking	2	169d	0	05JUN06	07JUN06	23DEC06	26DEC06
02CPRM0300	Erect Signage	6	169d	0	23MAY06	05JUN06	16DEC06	22DEC06
02CPRM0300	Install Railing, Fencing & etc	6	169d	0	23MAY06	05JUN06	16DEC06	22DEC06
Amenity Areas								
02AMRW0400	Construct U-Channels	16	195d	0	15APR06	06MAY06	05DEC06	26DEC06
Section 3								
Ma Lin Shui Subway								
Pump House Construction								
02MSPH0100	Construct Base Slab	8	39d	0	17SEP06	27SEP06	05NOV06	14NOV06
02MSPH0200	Construct Wall upto Barral Base Slab	8	39d	0	28SEP06	07OCT06	15NOV06	23NOV06
02MSPH0300	Construct Wall up to Top Slab	12	39d	0	31OCT06	12NOV06	15DEC06	23DEC06
02MSPH0400	Construct Top Slab	12	39d	0	28NOV06	10DEC06	12JAN06	25JAN06
02MSPH0500	Install Hoisting Beam	6	39d	0	21NOV06	26NOV06	05JAN06	11JAN06
Subway Entry Construction								
02MSSE0100	Excavation	30	15d	0	13AUG06	16SEP06	31AUG06	06OCT06
02MSSE0200	Construct Subway #1 Base Slab	9	16d	0	31AUG06	09SEP06	20SEP06	29SEP06
02MSSE0300	Construct Subway #2 Base Slab	9	49d	0	10SEP06	21SEP06	10NOV06	19NOV06
02MSSE0400	Construct Subway #3 Base Slab	9	49d	0	22SEP06	03OCT06	21NOV06	30NOV06
02MSSE0500	Construct Subway #4 Base Slab	12	39d	0	17OCT06	29OCT06	01DEC06	14DEC06
02MSSE0600	Construct Subway #1 Wall + Top Slab	12	55d	0	10SEP06	24SEP06	17NOV06	30NOV06
02MSSE0700	Construct Subway #2 Wall + Top Slab	12	51d	0	14NOV06	26NOV06	12JAN06	25JAN06
02MSSE0800	Construct Subway #3 Wall + Top Slab	12	48d	0	04OCT06	16OCT06	01DEC06	14DEC06
02MSSE0900	Construct Subway #4 Wall + Top Slab	12	51d	0	31OCT06	12NOV06	29DEC06	11JAN06
02MSSE1000	Backfilling	18	39d	0	12DEC06	31DEC06	26JAN06	17FEB06
Subway Exit Ramp Construction								
02MSSE1100	Excavation	46	15d	0	31AUG06	24OCT06	17SEP06	10NOV06
02MSSE1200	Construct E1 Ramp Base Slab	6	43d	0	27OCT06	02NOV06	16DEC06	29DEC06
02MSSE1300	Construct E2 Ramp Base Slab	6	41d	0	20OCT06	26OCT06	07DEC06	13DEC06

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Start date	10JUN04
Finish date	20NOV07
Site date	25JAN05
Site date	28JAN05
Project name	TP37
Programme	Initial Works
Site number	11A

- Early bar
- Early start point
- Early finish point
- Target start point
- Target finish point
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point


- Early bar
- Early start point
- Early finish point
- Target start point
- Target finish point
- Progress bar
- Critical bar
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- Start milestone point
- Finish milestone point

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Act ID	Description	Orig Dir	Total	Percent	Early Start	Early Finish	Late Start	Late Finish
03MSSE0400	Construct E3 Ramp Base Slab	6	27d	0	27OCT05	02NOV05	28NOV05	03DEC05
03MSSE0500	Construct E4 Ramp Base Slab	6	27d	0	28OCT05	28OCT05	24NOV05	28NOV05
03MSSE0600	Construct E5 Ramp Base Slab	6	27d	0	13OCT05	18OCT05	14NOV05	19NOV05
03MSSE0700	Construct E6 Ramp Base Slab	6	27d	0	03OCT05	12OCT05	07NOV05	12NOV05
03MSSE0800	Construct E7 Ramp Base Slab	6	27d	0	27SEP05	04OCT05	31OCT05	03NOV05
03MSSE0900	Construct E8 Ramp Base Slab	6	17d	0	20SEP05	28SEP05	12OCT05	18OCT05
03MSSE1000	Construct E9 Ramp Base Slab	6	15d	0	12SEP05	17SEP05	30SEP05	07OCT05
03MSSE1100	Construct E10 Ramp Base Slab	6	15d	0	26SEP05	28SEP05	08OCT05	18OCT05
03MSSE1200	Construct E11 Ramp Base Slab	6	31d	0	26SEP05	08OCT05	08OCT05	15NOV05
03MSSE1300	Construct E12 Ramp Base Slab	8	31d	0	10OCT05	19OCT05	16NOV05	24NOV05
03MSSE1400	Construct E1 Ramp Walls	8	19d	0	01DEC05	09DEC05	23DEC05	31DEC05
03MSSE1500	Construct E2 Ramp Walls	8	19d	0	22NOV05	30NOV05	14DEC05	22DEC05
03MSSE1600	Construct E3 Ramp Walls	8	19d	0	12NOV05	21NOV05	05DEC05	13DEC05
03MSSE1700	Construct E4 Ramp Walls	8	15d	0	24NOV05	02DEC05	12DEC05	20DEC05
03MSSE1800	Construct E5 Ramp Walls	8	15d	0	15NOV05	22NOV05	02DEC05	10DEC05
03MSSE1900	Construct E6 Ramp Walls	8	15d	0	05NOV05	14NOV05	22NOV05	01DEC05
03MSSE2000	Construct E7 Ramp Walls	10	15d	0	25OCT05	04NOV05	11NOV05	22NOV05
03MSSE2100	Construct E8 Ramp Walls	10	15d	0	13OCT05	24OCT05	31OCT05	10NOV05
03MSSE2200	Construct E9 Ramp Walls	10	15d	0	29SEP05	12OCT05	19OCT05	29OCT05
03MSSE2300	Construct E10 Ramp Walls	10	19d	0	13OCT05	24OCT05	04NOV05	15NOV05
03MSSE2400	Construct E11 Ramp Walls	8	19d	0	25OCT05	02NOV05	16NOV05	24NOV05
03MSSE2500	Construct E12 Ramp Walls	8	19d	0	03NOV05	11NOV05	28NOV05	03DEC05
03MSSE2600	Backfilling	20	15d	0	03DEC05	28DEC05	12JAN06	02JAN06
03MSSE2700	Install Roof Steel Posts	18	92d	0	27DEC05	16JAN06	17APR06	09MAY06
03MSSE2800	Construct Roof Slab E6, E8	12	92d	0	17JAN06	01FEB06	09MAY06	22MAY06
03MSSE2900	Construct Roof Slab E5, E7	12	92d	0	02FEB06	15FEB06	23MAY06	06JUN06
03MSSE3000	Construct Roof Slab E4, E9	12	92d	0	18FEB06	01MAR06	07JUN06	20JUN06
03MSSE3100	Construct Roof Slab E3, E10	12	92d	0	02MAR06	15MAR06	21JUN06	05JUL06
03MSSE3200	Construct Roof Slab E2, E11	12	92d	0	16MAR06	29MAR06	06JUL06	19JUL06
03MSSE3300	Construct Roof Slab E1, E12	12	92d	0	30MAR06	13APR06	20JUL06	02AUG06
Subway West Ramp Construction								
03MSBW0100	Excavation (Western Ramp)	41	48d	0	25OCT05	10DEC05	21DEC05	08FEB06
03MSBW0200	Construct W1 Ramp Base Slab	6	75d	0	13DEC05	21DEC05	13MAR06	21MAR06
03MSBW0300	Construct W2 Ramp Base Slab	6	73d	0	03DEC05	12DEC05	01MAR06	09MAR06
03MSBW0400	Construct W3 Ramp Base Slab	8	74d	0	24NOV05	02DEC05	17FEB06	25FEB06
03MSBW0500	Construct W4 Ramp Base Slab	8	45d	0	15NOV05	23NOV05	11JAN06	19JAN06
03MSBW0600	Construct W5 Ramp Base Slab	8	49d	0	05NOV05	14NOV05	02JAN06	10JAN06
03MSBW0700	Construct W6 Ramp Base Slab	8	49d	0	15NOV05	23NOV05	11JAN06	19JAN06
03MSBW0800	Construct W7 Ramp Base Slab	8	91d	0	24NOV05	02DEC05	13MAR06	21MAR06
03MSBW0900	Construct W1 Ramp Walls	10	35d	0	09FEB06	20FEB06	22MAR06	01APR06
03MSBW1000	Construct W2 Ramp Walls	10	35d	0	06JAN06	08FEB06	10MAR06	21MAR06
03MSBW1100	Construct W3 Ramp Walls	10	35d	0	14JAN06	25JAN06	17FEB06	05MAR06
03MSBW1200	Construct W4 Ramp Walls	10	35d	0	03JAN06	13JAN06	18FEB06	25FEB06
03MSBW1300	Construct W5 Ramp Walls	20	36d	0	10DEC05	05JAN06	20JAN06	14FEB06
03MSBW1400	Construct W6 Ramp Walls	20	45d	0	03JAN06	25JAN06	27FEB06	21MAR06
03MSBW1500	Construct W7 Ramp Walls	10	45d	0	26JAN06	08FEB06	22MAR06	01APR06
03MSBW1600	Backfilling	20	35d	0	21FEB06	15MAR06	03APR06	28APR06
03MSBW1700	Install Roof Posts	18	30d	0	16MAR06	05APR06	16MAY06	06JUN06



WAI KEE
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

Act ID	10JUN04	Early bar
Act ID	20NOV07	Early start point
Act ID	28JAN05	Early finish point
Act ID	28JAN05	Target start point
Act ID	12AUG05	Target finish point
Act ID	12AUG05	Target bar
Act ID	12AUG05	Resource bar
Act ID	12AUG05	Critical bar
Act ID	12AUG05	Summary bar
Act ID	12AUG05	Start milestone point
Act ID	12AUG05	Finish milestone point

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Act ID	Description	Orig Dur	Total Dur	Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Amity Area									
Drainage Works									
03AMUW0100	Construct U-Channels	36	73d	0	16AUG05	28SEP06	14NOV05	28DEC05	
Construct U-Channels									
03AMUT0200	Water Point WP4-2 to Water Meter No.3	16	63d	0	26AUG05	13SEP06	09NOV05	27NOV05	
Water Point WP4-2 to Water Meter No.3									
03AMUT0300	Water Point WP5-2 to Water Meter No.5	10	63d	0	13SEP05	23SEP05	28NOV05	08DEC05	
Water Point WP5-2 to Water Meter No.5									
03AMUT0300	Water Point WP6-2 to Water Meter No.6	14	63d	0	25SEP05	11OCT05	08DEC05	25DEC05	
Water Point WP6-2 to Water Meter No.6									
Section 4									
Public Toilet No. 2									
Foundation Construction									
04PTFC0100	Excavation to Formation Level	6	15d	0	28AUG05	03SEP05	15SEP05	23SEP05	
Excavation to Formation Level									
04PTFC0200	Subsoil Inspection by Structural Engineer	1	15d	0	03SEP05	05SEP05	23SEP05	23SEP05	
Subsoil Inspection by Structural Engineer									
04PTFC0300	Blinding	1	15d	0	06SEP05	06SEP05	24SEP05	24SEP05	
Blinding									
04PTFC0400	Steel Fixing for Footing	6	15d	0	07SEP05	13SEP05	26SEP05	03OCT05	
Steel Fixing for Footing									
04PTFC0500	Formwork	4	15d	0	14SEP05	17SEP05	04OCT05	07OCT05	
Formwork									
04PTFC0600	Concreting	1	15d	0	20SEP05	23SEP05	08OCT05	08OCT05	
Concreting									
04PTFC0700	Steel Fixing for Walls & Columns	3	15d	0	21SEP05	23SEP05	10OCT05	13OCT05	
Steel Fixing for Walls & Columns									
04PTFC0800	Formwork	4	15d	0	24SEP05	28SEP05	14OCT05	18OCT05	
Formwork									
04PTFC0900	Concreting	1	15d	0	28SEP05	28SEP05	19OCT05	19OCT05	
Concreting									
04PTFC1000	Remove Formwork	6	15d	0	30SEP05	07OCT05	20OCT05	26OCT05	
Remove Formwork									
04PTFC1100	Backfilling	12	15d	0	08OCT05	22OCT05	27OCT05	09NOV05	
Backfilling									
Ground Floor Slab Construction									
04PTGF0100	Erect Propping & Formwork	8	15d	0	24OCT05	26OCT05	10NOV05	16NOV05	
Erect Propping & Formwork									
04PTGF0200	Ground Slab Steel Fixing	3	15d	0	31OCT05	02NOV05	17NOV05	19NOV05	
Ground Slab Steel Fixing									
04PTGF0300	Formwork	2	15d	0	03NOV05	04NOV05	21NOV05	22NOV05	
Formwork									
04PTGF0400	Concreting	1	15d	0	05NOV05	05NOV05	23NOV05	23NOV05	
Concreting									
04PTGF0500	Erect Scaffolding	3	15d	0	07NOV05	08NOV05	24NOV05	26NOV05	
Erect Scaffolding									
04PTGF0600	Walls & Columns Formwork	3	15d	0	10NOV05	12NOV05	28NOV05	30NOV05	
Walls & Columns Formwork									
04PTGF0700	Steel Fixing for Walls & Columns	3	15d	0	14NOV05	16NOV05	01DEC05	03DEC05	
Steel Fixing for Walls & Columns									
04PTGF0800	Formwork	3	15d	0	17NOV05	19NOV05	05DEC05	07DEC05	
Formwork									
04PTGF0900	Concreting	1	15d	0	21NOV05	21NOV05	08DEC05	08DEC05	
Concreting									
04PTGF1000	Remove Formwork & Propping	12	15d	0	30NOV05	13DEC05	17DEC05	30DEC05	
Remove Formwork & Propping									
Mazzanine Floor Slab Construction									
04PTMF0100	Erect Propping & Formwork	8	15d	0	14DEC05	20DEC05	31DEC05	05JAN06	
Erect Propping & Formwork									
04PTMF0200	Mazzanine Slab Steel Fixing	3	15d	0	21DEC05	23DEC05	07JAN06	10JAN06	
Mazzanine Slab Steel Fixing									
04PTMF0300	Formwork	2	15d	0	24DEC05	28DEC05	11JAN06	12JAN06	
Formwork									
04PTMF0400	Concreting	1	15d	0	27DEC05	27DEC05	13JAN06	13JAN06	
Concreting									
04PTMF0500	Walls & Columns Formwork	3	15d	0	28DEC05	30DEC05	14JAN06	17JAN06	
Walls & Columns Formwork									
04PTMF0600	Steel Fixing for Walls & Columns	3	15d	0	31DEC05	03JAN06	18JAN06	20JAN06	
Steel Fixing for Walls & Columns									
04PTMF0700	Formwork	3	15d	0	04JAN06	06JAN06	21JAN06	24JAN06	
Formwork									
04PTMF0800	Concreting	1	15d	0	07JAN06	07JAN06	23JAN06	25JAN06	
Concreting									
04PTMF0900	Remove Formwork & Propping	12	15d	0	17JAN06	01FEB06	08FEB06	18FEB06	
Remove Formwork & Propping									
Upper Mazzanine Floor Slab Construction									
04PTUF0100	Erect Propping & Formwork	6	15d	0	02FEB06	08FEB06	20FEB06	25FEB06	
Erect Propping & Formwork									
04PTUF0200	Upper Mazzanine Slab Steel Fixing	3	15d	0	09FEB06	11FEB06	01MAR06	01MAR06	
Upper Mazzanine Slab Steel Fixing									
04PTUF0300	Formwork	2	15d	0	13FEB06	14FEB06	02MAR06	03MAR06	
Formwork									
04PTUF0400	Concreting	1	15d	0	15FEB06	15FEB06	04MAR06	04MAR06	
Concreting									
04PTUF0500	Remove Formwork & Propping	12	15d	0	24FEB06	09MAR06	14MAR06	27MAR06	
Remove Formwork & Propping									
Structural Signworks									
04PTSS0100	Prepare & Submit Shop Drawings	30	24d	0	02MAY05	04JUN05	30MAY05	05JUL05	
Prepare & Submit Shop Drawings									
04PTSS0200	Engineer Approval of Shop Drawings	12	24d	0	05JUN05	23JUN05	06JUL05	19JUL05	
Engineer Approval of Shop Drawings									

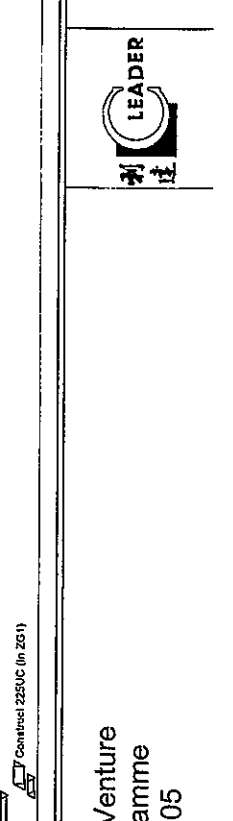
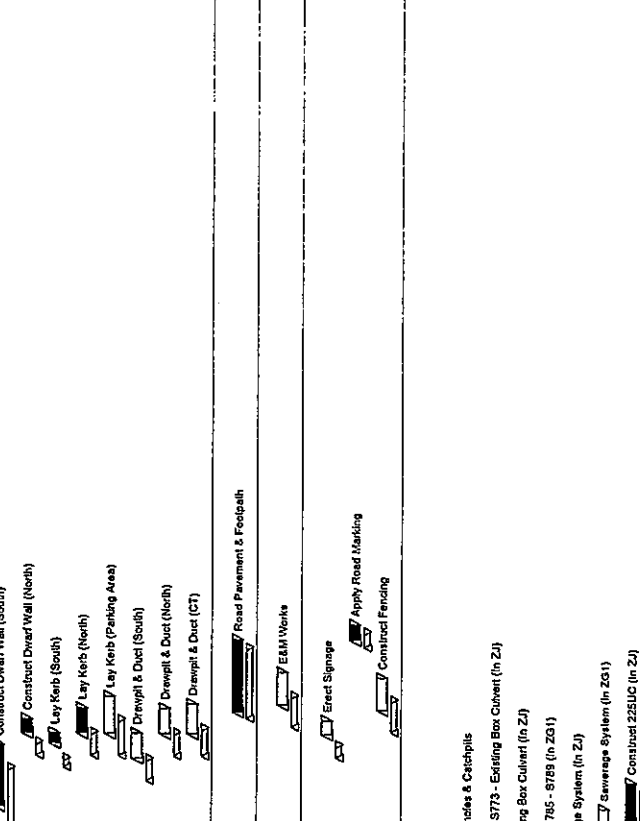
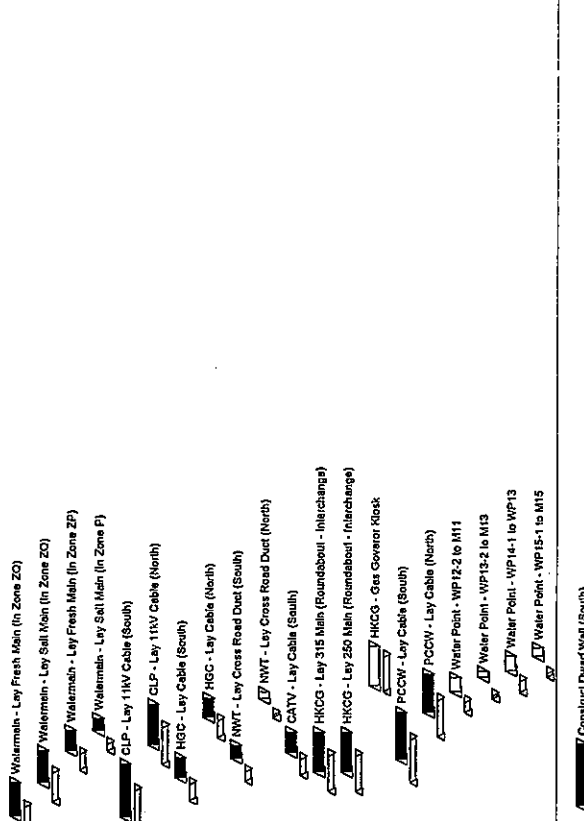
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 Prepare & Submit Shop Drawings
 Engineer Approval of Shop Drawings

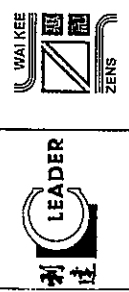
Start date	10JUL04
End date	20NOV07
Prepared by	Zeta del
Checked by	28JAN05
Target start point	
Target finish point	
Project name	IP06
Page number	1/14

Legend	□ Early bar
□	Early start point
△	Early finish point
▽	Target start point
▽	Target finish point
○	Target bar
○	Summary bar
○	Critical bar
○	Summary bar
○	Finish milestone point
○	Start milestone point

Act ID	Description	Orig Dur	Total Float	Complete	Early Start	Early Finish	Late Start	Late Finish	
05RLDW0200	Utility Works	12	100%	0	01MAY05	11MAY05	31AUG05	13SEP05	
05RLUT0100	Watermain - Lay Fresh Main (In Zone ZC)	30	-15d	0	21MAR05	25APR05	03MAY05	07APR05	
05RLUT0200	Watermain - Lay Salt Main (In Zone ZC)	30	-15d	0	20APR05	30MAY05	08APR05	12MAY05	
05RLUT0300	Watermain - Lay Fresh Main (In Zone ZP)	18	-13d	0	31MAY05	21JUN05	18MAY05	04JUN05	
05RLUT0400	Watermain - Lay Salt Main (In Zone P)	10	-13d	0	22JUN05	04JUL05	06JUN05	17JUN05	
05RLUT0500	CLP - Lay 11kV Cable (South)	40	-21d	0	21MAR05	16MAY05	24FEB05	27APR05	
05RLUT0600	CLP - Lay 11kV Cable (North)	36	-15d	0	07JUN05	26JUL05	20MAY05	02AUG05	
05RLUT0700	HGC - Lay Cable (South)	18	-15d	0	03MAY05	23MAY05	08APR05	28APR05	
05RLUT0800	HGC - Lay Cable (North)	18	-15d	0	07JUL05	27JUL05	18JUN05	09JUL05	
05RLUT0900	NWT - Lay Cross Road Duct (South)	12	-21d	0	24MAY05	06JUN05	29APR05	12MAY05	
05RLUT1000	NWT - Lay Cross Road Duct (North)	6	5d	0	28JUL05	03AUG05	03AUG05	08AUG05	
05RLUT1100	CATV - Lay Cable (South)	18	-21d	0	31MAY05	21JUN05	03MAY05	26MAY05	
05RLUT1200	HKCG - Lay 315 Mmh (Roundabout - Interchange)	36	-15d	0	10MAY05	21JUN05	22APR05	05JUN05	
05RLUT1300	HKCG - Lay 250 Mmh (Roundabout - Interchange)	36	-15d	0	10MAY05	21JUN05	22APR05	05JUN05	
05RLUT1400	HKCG - Gas Governor Block	36	8d	0	12AUG05	23SEP05	22APR05	04OCT05	
05RLUT1500	PCCW - Lay Cable (South)	42	-21d	0	24MAY05	13JUL05	26APR05	17JUN05	
05RLUT1600	PCCW - Lay Cable (North)	36	-21d	0	14JUL05	24AUG05	18JUN05	30JUL05	
05RLUT1700	Water Point - WP 12.2 to M11	13	23d	0	06AUG05	20AUG05	02SEP05	16SEP05	
05RLUT1800	Water Point - WP 12.2 to M13	6	23d	0	22AUG05	27AUG05	17SEP05	24SEP05	
05RLUT1900	Water Point - WP 14.1 to WP13	14	23d	0	29AUG05	13SEP05	26SEP05	13OCT05	
05RLUT2000	Water Point - WP 15.1 to M15	7	23d	0	14SEP05	23SEP05	14OCT05	21OCT05	
05RLPH0100	Public Lighting, Duct and Kerb	56	0	0	05APR05	16JUN05	05APR05	10JUN05	
05RLPH0200	Construct Diver Wall (South)	12	0	0	24JUN05	08JUL05	24JUN05	08JUL05	
05RLPH0300	Lay Kerb (South)	10	0	0	13JUN05	23JUN05	13JUN05	23JUN05	
05RLPH0400	Lay Kerb (North)	22	0	0	24JUN05	20JUL05	24JUN05	20JUL05	
05RLPH0500	Lay Kerb (Parking Area)	33	18d	0	24JUN05	02AUG05	18JUL05	24AUG05	
05RLPH0600	Drewhit & Duct (South)	22	5d	0	28MAY05	23JUN05	03JUN05	29JUN05	
05RLPH0700	Drewhit & Duct (North)	22	5d	0	24JUN05	20JUL05	30JUN05	26JUL05	
05RLPH0800	Drewhit & Duct (CT)	26	5d	0	24JUN05	25JUL05	30JUN05	30JUL05	
05RLPH0900	Road Pavement & Footpath	66	0	0	18JUL05	04OCT05	18JUL05	04OCT05	
05RLPH1000	E & M Works	30	43d	0	26JUL05	29AUG05	14SEP05	21OCT05	
05RLPH1100	Road Marking, Traffic Signs and Fencing	12	87d	0	24JUN05	09JUL05	07OCT05	21OCT05	
05RLPH1200	Erect Signage	14	0	0	05OCT05	21OCT05	05OCT05	21OCT05	
05RLPH1300	Apply Road Marking	30	47d	0	21JUL05	24AUG05	14SEP05	21OCT05	
05RLPH1400	Construct Fencing	30	47d	0	21JUL05	24AUG05	14SEP05	21OCT05	
Section 6 Cycle Track									
06CTDW0100	Decide Exact Location of Manholes & Catchpits	1	100%	100	27SEP04	27SEP04	27SEP04	27SEP04	
06CTDW0200	S773 - Existing Box Culvert (In ZJ)	38	-5d	0	28JAN05	16MAR05	22JAN05	10MAR05	
06CTDW0300	S784 - Existing Box Culvert (In ZJ)	52	0	100	28SEP04	03JAN05	28SEP04	03JAN05	
06CTDW0400	S785 - S789 (In ZG1)	31	21d	0	28JAN05	09MAR05	01MAR05	06APR05	
06CTDW0500	Sewerage System (In ZJ)	42	0	100	19NOV04	28JAN05	19NOV04	28JAN05	
06CTDW0600	Sewerage System (In ZG1)	24	24d	0	03MAY05	06APR05	07APR05	04MAY05	
06CTDW0700	Construct 225UC (In ZJ)	36	-5d	0	24MAR05	05MAY05	18MAR05	29APR05	
06CTDW0800	Construct 225UC (In ZG1)	16	17d	0	08MAY05	24MAY05	28MAY05	14JUN05	



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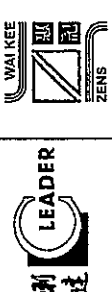


Legend:

- Early start
- Early finish
- Target start point
- Target finish point
- Total float
- Critical path
- Summary bar
- Start milestone point
- Finish milestone point


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Act ID	Description	Orig Dur	Total Percent Complete	Early Start	Early Finish	Late Start	Late Finish
07WPDW0100	S715 - Existing Box Culvert	30	100%	01JAN05	01JAN05	01NOV05	10DEC05
07WPDW0500	F901 - F902 (TTA No. 10)	12	15%	14FEB05	11JAN05	24JUN05	24JUN05
07WPDW0600	F901 - F902 (TTA No. 11)	12	15%	02FEB05	11MAR05	05FEB05	24FEB05
07WPDW0700	F902 - F903 (TTA No. 12)	16	-15%	02MAR05	12APR05	07MAR05	24MAR05
07WPDW0800	F903 - Existing Manhole (TTA No. 13)	16	-15%	02APR05	14MAY05	08APR05	27APR05
07WPDW0900	S776 - S771	25	-15%	01MAY05	14JUN05	28APR05	28MAY05
07WPDW1000	CP102 - CP104 (In ZU)	20	100%	01JUN05	08JUL05	14OCT05	05NOV05
07WPDW1100	S716 - Existing Box Culvert	22	100%	03JUL05	03AUG05	07NOV05	01DEC05
07WPDW1200	225 Dia Perforated Drain (In ZS)	51	-4%	012APR05	09JUN05	07APR05	04JUN05
07WPDW1300	225HR & Catchpit with 200D.I. along Parapet Wall	50	41%	01JUL05	08SEP05	27AUG05	27OCT05
07WPDW1400	225UC along Planter Wall	50	44%	01JUN05	09AUG05	06JUN05	04AUG05
07WPDW1500	225UC (In ZU)	11	24%	028OCT05	28NOV05	28NOV05	07DEC05
07WPDW1600	300UC (In ZU)	25	24%	01NOV05	08DEC05	08DEC05	05JAN06
07WPDW1700	225Dia. Perforated Drain (In ZU)	21	24%	0103OCT05	27OCT05	01NOV05	24NOV05
07WPDW1800	300 CUC (In ZU)	18	-15%	015JUN05	06JUL05	27MAY05	17JUN05
07WPDW1900	225 Perforated Drain (In ZU)	18	-15%	007JUL05	27JUL05	18JUN05	09JUL05
Utility Works							
07WPU0100	Watermain - Lay Salt Main (TTA No. 10)	10	-15%	015FEB05	25JAN05	04FEB05	04FEB05
07WPU0200	Watermain - Lay Salt Main (TTA No. 11)	10	-15%	012MAR05	23MAR05	23FEB05	03MAR05
07WPU0300	Watermain - Lay Salt Main (TTA No. 12)	12	-15%	013APR05	26APR05	25MAR05	08APR05
07WPU0400	Watermain - Lay Salt Main (TTA No. 13)	12	34%	016MAY05	28MAY05	26JUN05	09JUL05
07WPU0500	CLP - Lay LV Cable	12	20%	015FEB05	28FEB05	21MAR05	02APR05
07WPU0600	PCCW - Lay Cable	67	25%	004JUN05	23AUG05	11JUL05	27SEP05
07WPU0700	Watermain (In ZU)	18	-15%	026JUL05	17AUG05	11JUL05	30JUL05
Public Lighting, Duct and Kerb							
07WPK0100	Public Lighting (In ZU)	60	21%	003OCT05	12DEC05	28OCT05	05JAN06
07WPK0200	Public Lighting (In ZS)	60	-11%	028AUG05	09NOV05	16AUG05	27OCT05
Roads and Paving							
07WPR0100	Lay Paving Block (In ZU)	30	-11%	018JAN06	24FEB06	06JAN06	14FEB06
07WPR0200	Lay Paving Block (In ZS)	60	-11%	016NOV05	18JAN06	28OCT05	05JAN06
Finishing Works							
07WFW0100	Finishing Works (In ZU)	30	-5%	023JAN06	28FEB06	13JAN06	18FEB06
07WFW0200	Finishing Works (In ZS)	55	64%	024AUG05	29OCT05	10NOV05	12JAN06
E & M Works							
07WEM0500	Irrigation System (In ZU)	30	5%	028NOV05	02JAN06	09DEC05	12JAN06
07WEM0600	Irrigation System (In ZS)	32	5%	016JUL05	23AUG05	26SEP05	03NOV05
07WEM0700	EAM Works	30	27%	013DEC05	16JAN06	13JAN06	18FEB06
Testing and Commissioning							
07WTC0100	Testing & Commissioning	30	9%	003JAN06	08FEB06	13JAN06	18FEB06
Road Markings, Traffic Signs and Fencing							
07WTR0500	Erect Signage	30	-5%	019JAN06	24FEB06	13JAN06	18FEB06
07WTR0600	Apply Road Marking	12	-11%	016FEB06	03MAR06	05FEB06	18FEB06
Landscape Reservoirs							
07WPL0100	Planter Wall (In ZS, South End - 100m)	20	-11%	012MAY05	03JUN05	29APR05	21MAY05
07WPL0200	Planter Wall (In ZS, 100 - 200m)	20	-11%	019APR05	11MAY05	06APR05	28APR05
07WPL0300	Planter Wall (In ZS, 200 - 300m)	20	-11%	025MAR05	18APR05	12MAR05	05APR05
07WPL0400	Planter Wall (In ZS, 300 - 400m)	20	-11%	005MAR05	24MAR05	17FEB05	11MAR05
07WPL0500	Planter Wall (In ZS, 400 - North End)	20	100%	004AUG05	26AUG05	02DEC05	24DEC05
07WPL0600	Planter Wall (In ZU)	20	-6%	012AUG05	30SEP05	18AUG05	21SEP05
07WPL0700	Parapet Wall along Sewall	60	-11%	016JUN05	12AUG05	04JUN05	15AUG05
07WPL0800	Contract Curve Trellis (In ZU)	60	-5%	003OCT05	12DEC05	22SEP05	02DEC05



WAI KEE
LEADER

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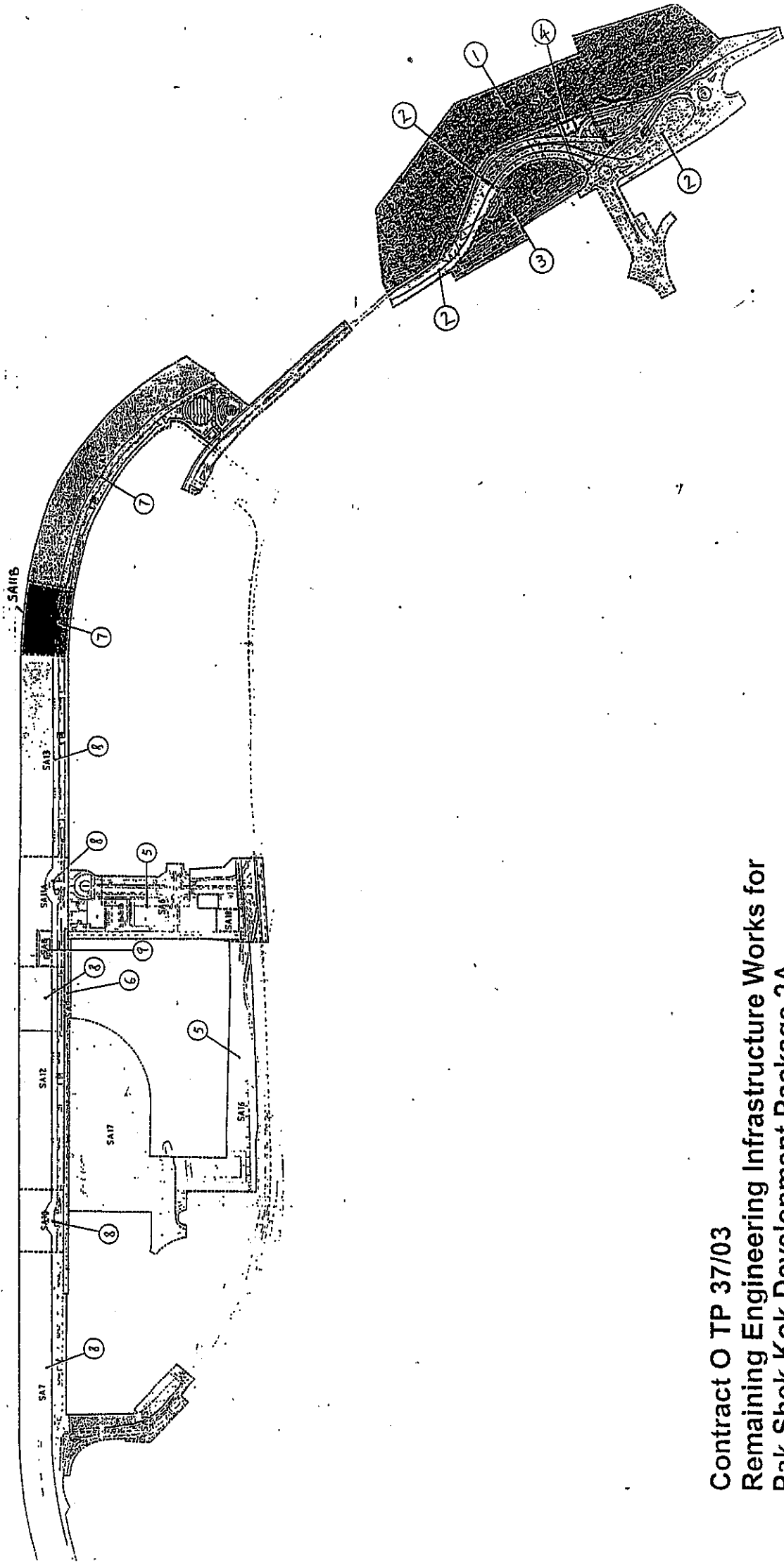
ZENS

Early bar
 Early start point
 Early finish point
 Target start point
 Target finish point
 Taget bar
 Progress bar
 Critical bar
 Summary bar
 ...



Appendix G

Construction Site Area



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

Location and Key Pan



Appendix H

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



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 2 July 2005 Inspected by Name : (RSS) Sunny Tang (LWKAV) Signature : *[Signature]* (ET) H.T. Chow
 Time : 09:30
 Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 32°C
 Condition : Calm / Light / Breeze / Strong Humidity : High / Moderate / Low
 Wind :

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 constructors 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.

	Implementation Stages*		Remark
	Yes	No	
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"/>	<input 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"/>	<input 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 type="checkbox"/>	
▪ The haul road should be either paved or regular watering.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Unpaved areas should be watered regularly to avoid dust generation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ The public road around the site entrance should be kept clean and free from dust.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Vehicle speed should be limited to 20 km/hr.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Wheel washing facilities should be provided at all main entrance of work site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ The enclosures should be around the main dust-generating activities.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Dusty materials should be sprayed prior to loading.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Vehicle and equipment should be switched off while not in use.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Open burning should be prohibited.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Noise			
▪ The constructors works should be scheduled to minimize noise nuisance.	<input checked="" type="checkbox"/>	<input 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"/>	<input 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"/>	<input 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"/>	<input type="checkbox"/>	
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Noise enclosures, noise barriers, or portable noise barriers used where necessary.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Air compressors and hand held breakers should have noise labels.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Compressors and generators should operate with door closed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▪ Construction Noise Permits should be available for inspection.	<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				
Water Quality				
General Construction Activities				
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓			
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓			
▪ All traps shall incorporate oil and grease removal facilities.	✓			#1
▪ 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.	✓			(1) (3)
▪ Open stockpiles of more than 50m ³ should be covered.	✓			
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.	✓			
▪ Manholes should be covered and sealed.	✓			
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	✓			
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	✓			
▪ Vehicle washing facilities should be provided at every site exit.	✓			
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.	✓			
▪ Washing area and road exiting from washing facility should be paved.	✓			
▪ Access road should have sufficient back fall toward washing facility.	✓			
Dredging Activities				
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	✓			
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	✓			
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.	✓			
▪ The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.	✓			
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	✓			
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	✓			
▪ Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.	✓			
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	✓			

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

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



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*		Remark
	Yes	No	
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	✓		

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 the site inspection on 18.23 June 2005. The sedimentation tank has installed on SA14, but partly of site runoff still direct discharge into the sea.	SA14	The contractor should be adopted any effective treatment process before discharge.	7-7-2005
#2	The curtain was provided for marine working area.	Between Node 2 & Node 3	Follow up action was completed, no further action to be taken.	N/A
Remark ①	Temporary water-pipe was found breaky.	stockpile next to Node 1	The contractor was reminded to repair and maintain all drainage facilities for release of storm flows.	7-7-2005
Remark ②	No tip tray provided for fuel tank.	Node 1	The contractor was reminded to provide tip tray for fuel tank to prevent land contamination.	7-7-2005
Remark ③	Large volume of rain water was accumulated on Road L4.	Road L4	The contractor was reminded to pump out the rain water to prevent mosquito breeding.	7-7-2005

Signature:	RSS	LWKJV	ET
Name:	Sunny Perry	Ben	H.T. Chan
Date:	2/7/2005	2/7/05	2-7-2005

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 : 7 July 2015 Inspected by Name : (RSS) Reeds Co (ET) H.T. Chow
 Time : 10:15 Signature : *[Signature]*
 Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 28°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.	<input checked="" type="checkbox"/>		
▪ During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	<input checked="" type="checkbox"/>		
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	<input checked="" type="checkbox"/>		
▪ The haul road should be either paved or regular watering.	<input checked="" type="checkbox"/>		
▪ Unpaved areas should be watered regularly to avoid dust generation.	<input checked="" type="checkbox"/>		
▪ The public road around the site entrance should be kept clean and free from dust.	<input checked="" type="checkbox"/>		
▪ Vehicle speed should be limited to 20 km/hr.	<input checked="" type="checkbox"/>		
▪ Wheel washing facilities should be provided at all main entrance of work site.	<input checked="" type="checkbox"/>		
▪ The enclosures should be around the main dust-generating activities.	<input checked="" type="checkbox"/>		
▪ Dusty materials should be sprayed prior to loading.	<input checked="" type="checkbox"/>		
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	<input checked="" type="checkbox"/>		
▪ Vehicle and equipment should be switched off while not in use.	<input checked="" type="checkbox"/>		
▪ Open burning should be prohibited.	<input checked="" type="checkbox"/>		
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 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.	✓			#
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓			#
▪ All traps shall incorporate oil and grease removal facilities.	✓			
▪ Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	✓			
▪ All drainage facilities should be adequate for controlled release of storm flows.	✓			
▪ Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓			
▪ Open stockpiles of more than 50m ³ should be covered.	✓			
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.	✓			
▪ Manholes should be covered and sealed.	✓			
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	✓			
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	✓			
▪ Vehicle washing facilities should be provided at every site exit.	✓			
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.	✓			
▪ Washing area and road exiting from washing facility should be paved.	✓			
▪ Access road should have sufficient back fall toward washing facility.	✓			
Dredging Activities				
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	✓			
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	✓			
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.	✓			
▪ The works shall cause no visible foam, oil, grease, solum litter or other objectionable matter to be present on the water within the site.	✓			
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	✓			
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	✓			
▪ Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.	✓			
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	✓			



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
Filling Activities				
• Use of silt screen around the filling face to reduce the losses to the surrounding.	✓			
• All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.	✓			
• The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.	✓			
• All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.	✓			
• Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.	✓			
Waste Management				
Marine Dredged Sediment				
• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.				✓
• Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.				✓
• Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.				✓
• Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m ³ capacity, well maintained and capable of rapid opening and discharge at the disposal site.				✓
• Inspection of the barge loading to ensure that loss of material does not take place during transportation.				✓
Construction and Demolition (C&D) Waste				
• Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.	✓			
• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.	✓			
• Proper protective measures, such as fences and tarpaulin, are provided, in order to protect the temporary stockpiled materials for later reuse / recycle.	✓			
• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)	✓			
• In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste formworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away 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	
Mitigation Measures on Waste Management			
• Proper storage will minimize the damage and thus the wastage of the materials	✓		
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	✓		
• Chemical Waste			
• It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓		
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.		✓	
• Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓		
• Containers used for the storage of chemical wastes			
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓		
• Have a capacity of less than 450L unless the specification have been approved by the EPD	✓		
• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	✓		
• Labelling	✓		
• Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	✓		
• The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	✓		
• Storage Area			
• Be clearly labeled and used solely for the storage of chemical waste	✓		
• Be enclosed on at least 3 sides	✓		
• Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓		
• Have adequate ventilation	✓		
• Be covered to prevent rainfall entering	✓		
• Be arranged so that incompatible materials are adequately separated	✓		
• Be clean and maintain regularly	✓		
• Disposal			
• Be via a licensed waste collector		✓	
• To a licensed disposal facility, such as Chemical Waste Treatment Centre		✓	
• Be a reuser of the waste, under approval from the EPD		✓	



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• Spillage				
• Establish source of spill or discharge and determine nature of material, where possible halt discharge				
• Commencing at the source of the spill, establish all current and potential impacted areas				
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary				
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials				
• Dispose of materials as chemical wastes				
• General Refuse				
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste				
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.				
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts				
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.				
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.				
• Site Practice				
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment. Construction sites should be cleaned on a regular basis.				
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.				①
• 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 the site inspection on 18.23 June and 2 July 2005, the channels of temporary ditches have been improved, no direct discharge was observed.	SA14	The contractor recommended to keep the sedimentation tank in operating.	14-7-05
#2	The temporary drainage facilities was repaired by contractor.	Stockpile next to Node 1	Follow up action was completed, no further action to be taken.	N/A
#3	The fuel tank on "Node 1" was removed.	Node 1	Follow up action was completed, no further action to be taken.	N/A
#4	Ponding water on Road L4" was pump out by contractor.	Road L4	Follow up action was completed, no further action to be taken.	N/A
Remark	The rubbish skip was found full load at	Road L4	The contractor was reminded to keep the rubbish skip clear and clear up more frequently.	14-7-05
(1)	"Road L4"			

Signature:	RSS	LWKJV	ET
Name:	Revel Lo	Jan Yip	H.T. Chow
Date:	7-7-2005	7/7/05	7-7-2005

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 14 July 2005 Inspected by Name : (RSS) Sunny, Fung & (LWKJM) Fung (ET) H.T. Chow
 Time : 09:30 Signature : *[Signature]*
 Weather : Sunny Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 32°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 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					
Filling Activities					
<ul style="list-style-type: none"> ▪ Use of silt screen around the filling face to reduce the losses to the surrounding. ▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged. ▪ The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site. ▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material. ▪ Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation. 	✓				
Waste Management					
Marine Dredged Sediment					
<ul style="list-style-type: none"> • Relevant licence / permits for disposal of marine dredged sediment are available for inspection. • Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved. • Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD. • Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m³ capacity, well maintained and capable of rapid opening and discharge at the disposal site. • Inspection of the barge loading to ensure that loss of material does not take place during transportation. 				✓	
Construction and Demolition (C&D) Waste					
<ul style="list-style-type: none"> • Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites. • Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials. • Proper protective measures, such as fences and tarpaulin, are provided, in order to protect the temporary stockpiled materials for later reuse / recycle. • Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials) • In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste formworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers. • All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it. • Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement. • Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills • Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. • Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized 	✓			✓	



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

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



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

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.	✓		②
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.	✓		①

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 : 21 July - 2007 Inspected by Name : (RSS) Eric Leung (LWKJM) Fan-tyl (ET) H.T. Chow
 Time : 10:30 Signature : Li

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 32°C
 Wind : Calm / Light / Breeze / Strong Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
Air Quality				
▪ The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.	✓			
▪ During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	✓			
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓			
▪ The haul road should be either paved or regular watering.	✓			
▪ 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.
▪	✓			Permanent drainage channels shall incorporate sediment basins / traps, and baffles.
▪	✓			All traps shall incorporate oil and grease removal facilities.
▪	✓			Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.
▪	✓			All drainage facilities should be adequate for controlled release of storm flows.
▪	✓			Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.
▪	✓			Open stockpiles of more than 50m ³ should be covered.
▪	✓			Temporary stockpiles of excavated materials should be covered during rainstorms.
▪	✓			Manholes should be covered and sealed.
▪	✓			All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.
▪	✓			Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.
▪	✓			Vehicle washing facilities should be provided at every site exit.
▪	✓			Vehicle washing facilities should be adequate to settle out the sand and silt.
▪	✓			Washing area and road exiting from washing facility should be paved.
▪	✓			Access road should have sufficient back fall toward washing facility.
Dredging Activities				
▪	✓			Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.
▪	✓			Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.
▪	✓			All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.
▪	✓			The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.
▪	✓			All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.
▪	✓			Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.
▪	✓			Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.
▪	✓			Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*		Remark
	Yes	No	
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"/>	<input type="checkbox"/>	
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 type="checkbox"/>	①
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 material.	<input checked="" type="checkbox"/>	<input 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Waste Management			
Marine Dredged Sediment			
Relevant licence / permits for disposal of marine dredged sediment are available for inspection.	<input checked="" type="checkbox"/>	<input 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 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 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 type="checkbox"/>	
Inspection of the barge loading to ensure that loss of material does not take place during transportation.	<input checked="" type="checkbox"/>	<input 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"/>	<input 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"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)	<input checked="" type="checkbox"/>	<input 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"/>	<input 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"/>	<input type="checkbox"/>	
Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills	<input checked="" type="checkbox"/>	<input 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"/>	<input 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"/>	<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			
• Proper storage will minimize the damage and thus the wastage of the materials	/		
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	/		
• Chemical Waste			
• It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	/		
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.		/	
• Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	/		
• Containers used for the storage of chemical wastes			
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	/		
• Have a capacity of less than 450L unless the specification have been approved by the EPD	/		
• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	/		
• Labelling	/		
• Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	/		
• The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	/		
• Storage Area			
• Be clearly labeled and used solely for the storage of chemical waste	/		
• Be enclosed on at least 3 sides	/		
• Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	/		
• Have adequate ventilation	/		
• Be covered to prevent rainfall entering	/		
• Be arranged so that incompatible materials are adequately separated	/		
• Be clean and maintain regularly	/		
• Disposal			
• Be via a licensed waste collector			
• To a licensed disposal facility, such as Chemical Waste Treatment Centre			
• Be a reuser of the waste, under approval from the EPD			



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

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

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 27 July 2005
 Time : 14:30
 Inspected by : (RSS) *Beeds Lo*
 Name : *Lo*
 Signature : *Lo*
 (ET) *Linda Lam*
W
W

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Galm / Light / Breeze / Strong
 Temperature : 32
 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

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
Water Quality				
General Construction Activities				
Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓			
Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓			
All traps shall incorporate oil and grease removal facilities.	✓			
Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	✓			
All drainage facilities should be adequate for controlled release of storm flows.	✓			
Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓			
Open stockpiles of more than 50m ² should be covered.	✓			
Temporary stockpiles of excavated materials should be covered during rainstorms.	✓			
Manholes should be covered and sealed.	✓			
All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	✓			
Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	✓			
Vehicle washing facilities should be provided at every site exit.	✓			
Vehicle washing facilities should be adequate to settle out the sand and silt.	✓			
Washing area and road exiting from washing facility should be paved.	✓			
Access road should have sufficient back fall toward washing facility.	✓			
Dredging Activities				
Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	✓			
Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	✓			
All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.	✓			
The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.	✓			
All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	✓			
Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	✓			
Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.	✓			
Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	✓			



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

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



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*		Remark
	Yes	No /N/A	
<ul style="list-style-type: none"> Proper storage will minimize the damage and thus the wastage of the materials 	✓		
<ul style="list-style-type: none"> Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned. 	✓		
<ul style="list-style-type: none"> Chemical Waste 			
<ul style="list-style-type: none"> It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes. 	✓		
<ul style="list-style-type: none"> After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. 			✓
<ul style="list-style-type: none"> Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation. 	✓		
<ul style="list-style-type: none"> Containers used for the storage of chemical wastes 			
<ul style="list-style-type: none"> Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed 	✓		
<ul style="list-style-type: none"> Have a capacity of less than 450L unless the specification have been approved by the EPD 	✓		
<ul style="list-style-type: none"> Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice 	✓		
<ul style="list-style-type: none"> Labelling 	✓		
<ul style="list-style-type: none"> Every container of chemical waste would bear an appropriate label, which would contain the particulars details. 	✓		
<ul style="list-style-type: none"> The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste 	✓		
<ul style="list-style-type: none"> Storage Area 			
<ul style="list-style-type: none"> Be clearly labeled and used solely for the storage of chemical waste 	✓		
<ul style="list-style-type: none"> Be enclosed on at least 3 sides 	✓		
<ul style="list-style-type: none"> Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest 	✓		
<ul style="list-style-type: none"> Have adequate ventilation 	✓		
<ul style="list-style-type: none"> Be covered to prevent rainfall entering 	✓		
<ul style="list-style-type: none"> Be arranged so that incompatible materials are adequately separated 	✓		
<ul style="list-style-type: none"> Be clean and maintain regularly 	✓		
<ul style="list-style-type: none"> Disposal 			
<ul style="list-style-type: none"> Be via a licensed waste collector 			✓
<ul style="list-style-type: none"> To a licensed disposal facility, such as Chemical Waste Treatment Centre 			✓
<ul style="list-style-type: none"> Be a reuser of the waste, under approval from the EPD 			✓

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	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.				



Appendix I

Wastewater Monitoring

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Test Report of Wastewater Sample from Discharge Point



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TEST REPORT

JOB NO. : A-05173-1A

DATE OF ISSUE : 6 Jun 2005

PAGE : 1 of 1

1. Client

Leader - Wai Kee (C&T) Joint Venture

Unit 1001-1006, 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 set of water sample said to be wastewater

Sampling : Conducted by the 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 & Time : 27 May 2005 10:30

Received Date & Time : 27 May 2005 12:00

3. Test Method

Parameter	Reference Method	Testing Period
(i) Total Suspended Solids (TSS) Dried at 103-105°C	APHA ¹ 17e 2540 D	27 May 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
Pak Shek Kok	Total Suspended Solids	505177	0.2	≤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).

5. Remark

This report supersedes test report job number A-05173-1 dated 30 May 05.

--- END OF REPORT ---



APPROVED SIGNATORY:

Kenneth Lam
(Laboratory Manager)



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環境化驗有限公司

TEST REPORT

JOB NO. : A-05173-2A
DATE OF ISSUE : 8 Jun 2005 PAGE : 1 of 1

1. Client

Leader - Wat 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 set of water sample said to be wastewater
Sampling : Conducted by the 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
COD: conc. H₂SO₄ was added to pH < 2
Sampling Date & Time : 27 May 2005 10:30
Received Date & Time : 27 May 2005 12:00

3. Test Method

Parameter	Reference Method	Testing Period
(i) pH	APHA ¹ 20e 4500 H ⁺ B	On-site
(ii) Chemical Oxygen Demand (COD)	APHA ¹ 20e 5220 C	27 May 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
Pak Shek Kok	pH at 20 °C	-	7.7	6-9	-
	Chemical Oxygen Demand	806178	< 60	≤80	mgO ₂ /L

* Test results relate only to the items received.
** Information provided by the client. (It is not a test result, information for reference only).

5. Remark

This report supersedes test report job number A-05173-2 dated 31 May 05.



— END OF REPORT —

APPROVED SIGNATORY :

Kenneth Lam
(Laboratory Manager)



Appendix J

IEC and RE Comments on Monthly EM&A Report

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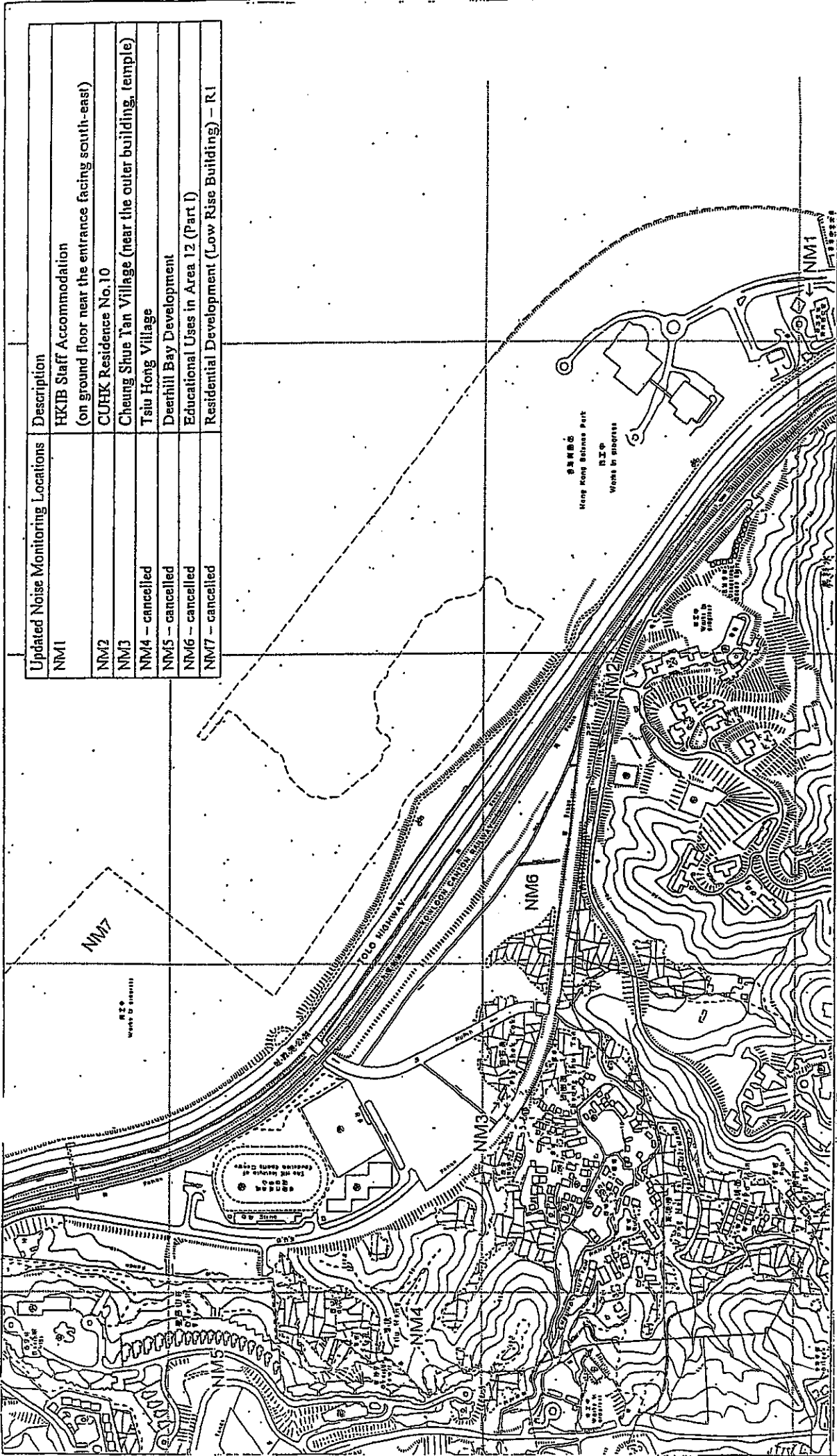
June 2005

IEC and RE Comments on Monthly Environmental Monitoring and Audit Report – June 2005

Item No.	Document Reference	Comment	ET Response
1	Table 13.1	The coming months should be July and August	Typo errors. The coming months should be July and August instead of June and July. (Table 13.1)
2	Appendix B2	The spelling of the name of AM8 is not correct. Please amend.	Typo error. The monitoring stations of 1-hr TSP should be "AM5" instead of "AM8". (Appendix B2)
3	Appendix F	Please provide the updated works programme	The exist works programme is also valid in this reporting month and the updated works programme will be attached in the coming report.



Figures



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

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

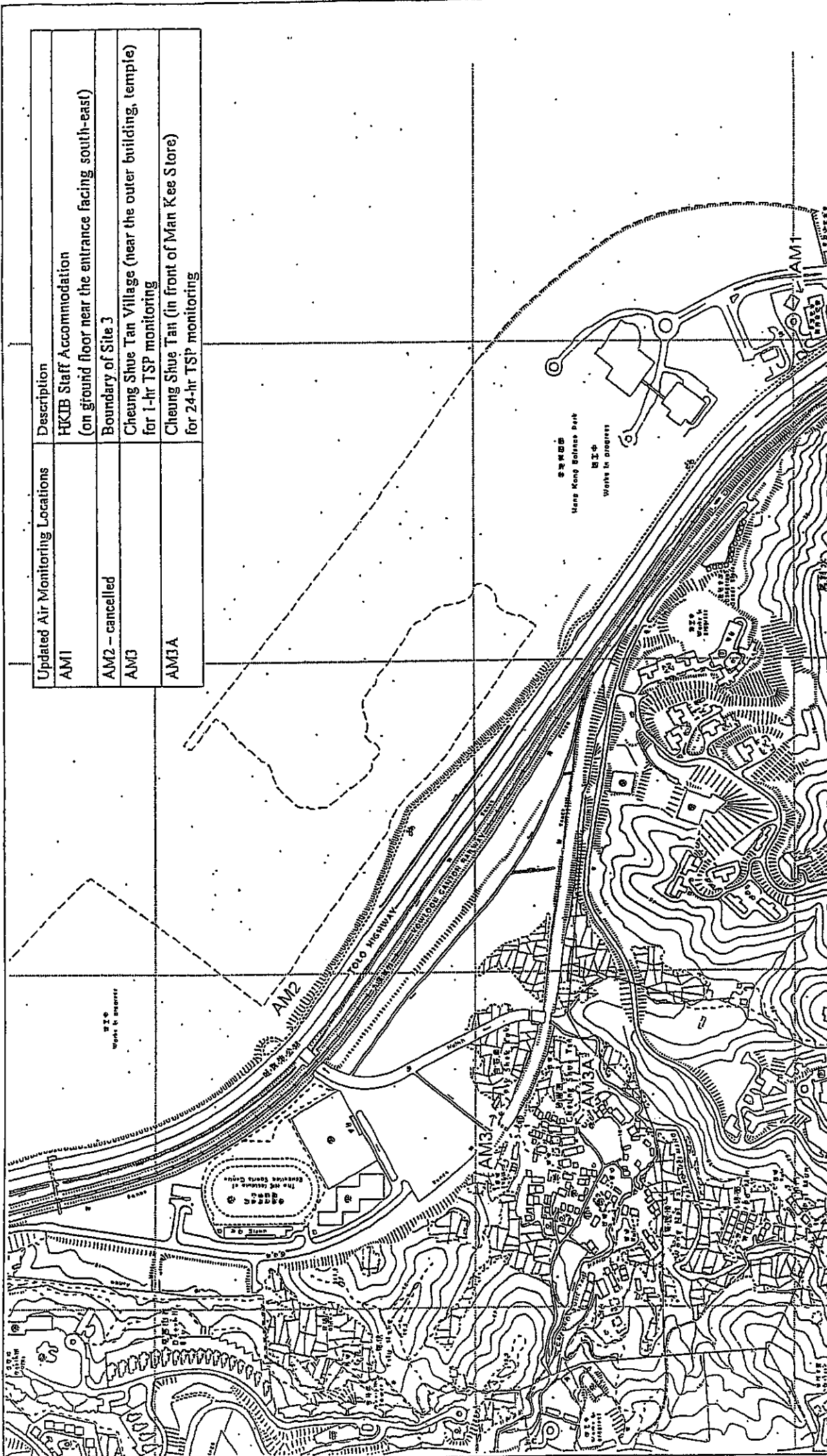
Scale : ---

Revised Date: ...

June 2004



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

Scale : ---

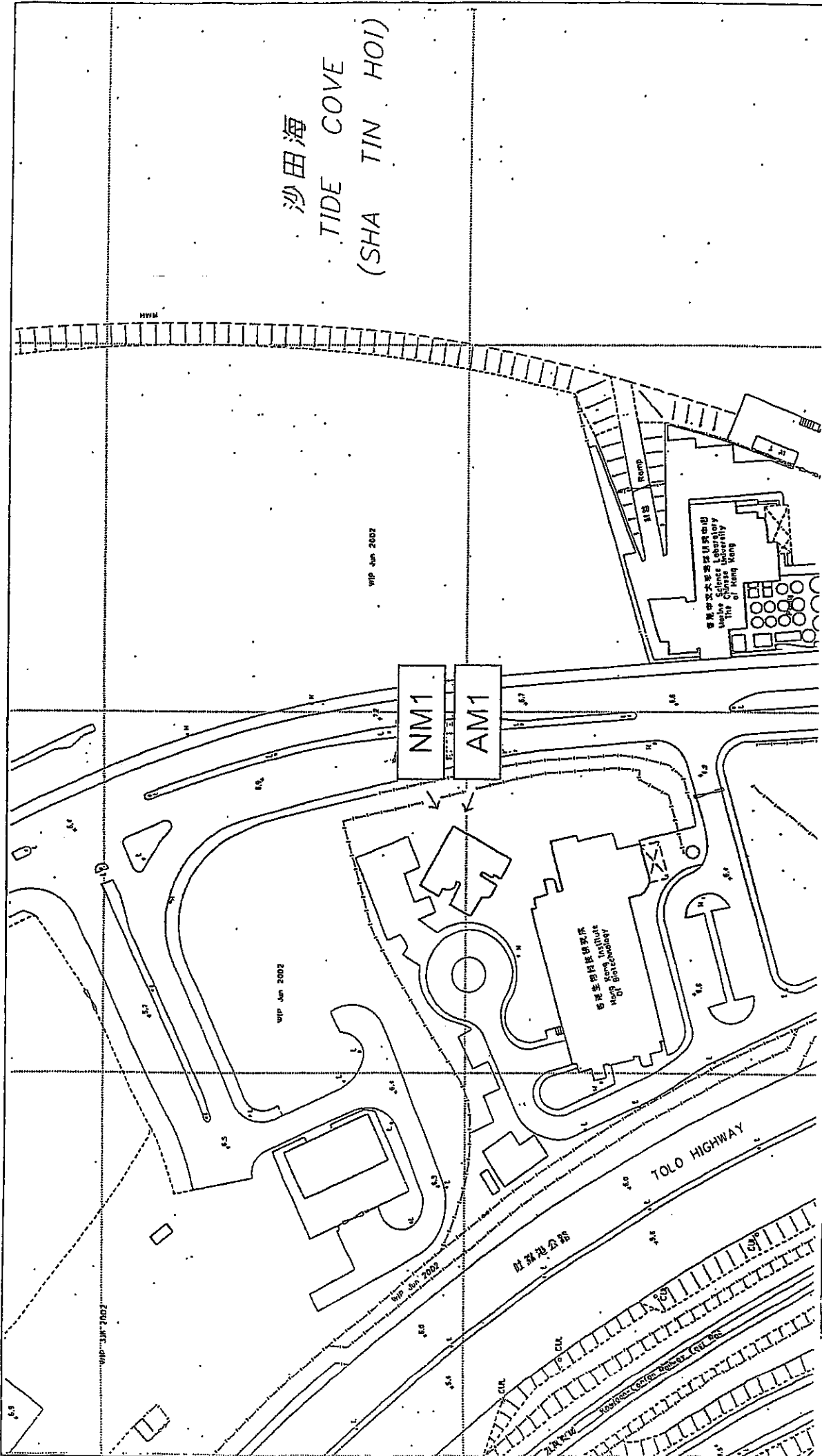
Revised Date:

June 2004

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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Remaining Engineering Infrastructure Works for
 Pak Shek Kok Development Package 2A
 Contract No. TP 37/03
 Figure 3 Location of Air and Noise Monitoring Stations
 at HKIB Staff Accommodation

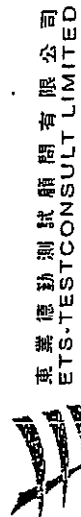
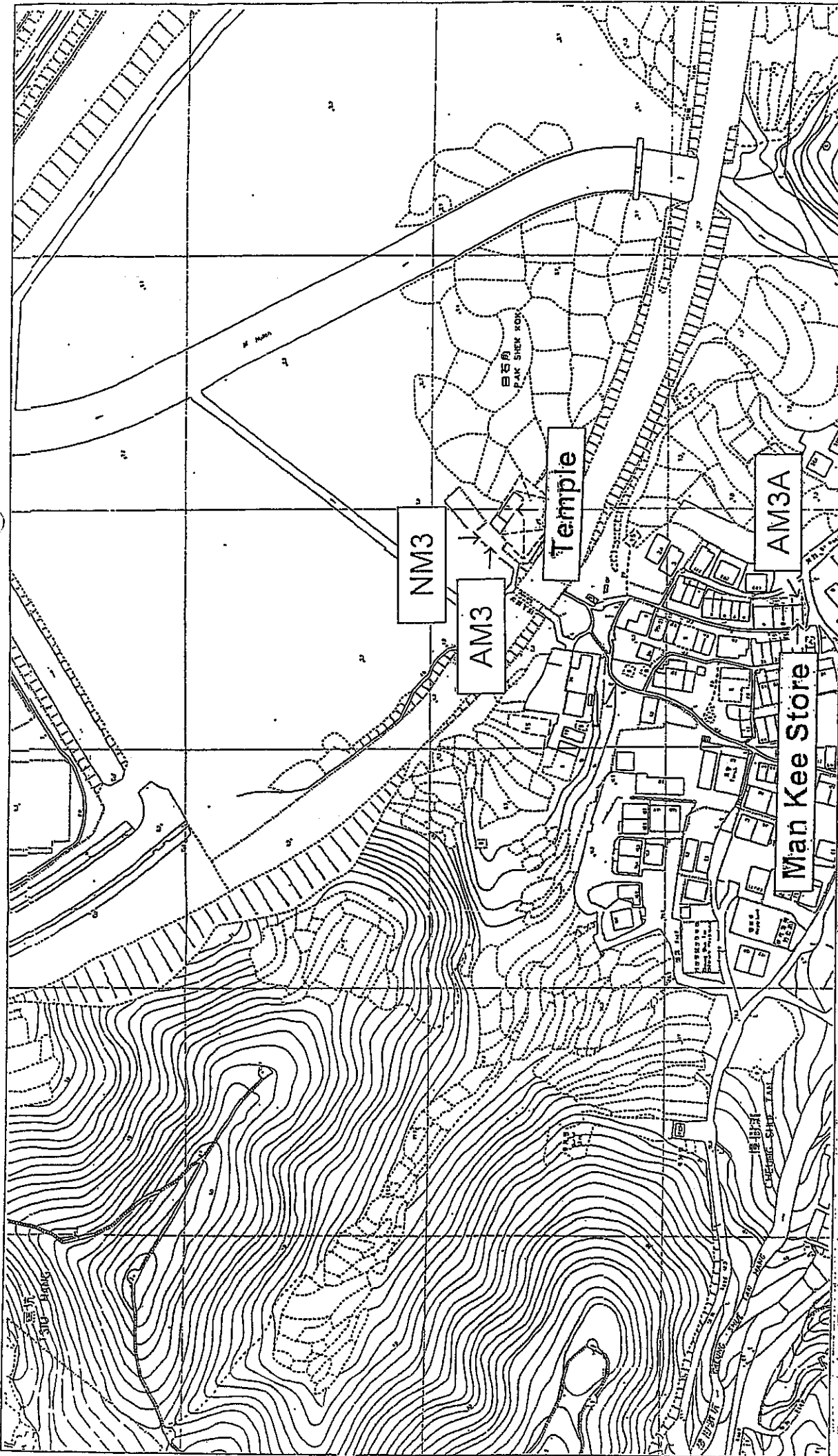
Scale : ---

Revised Date:

June 2004



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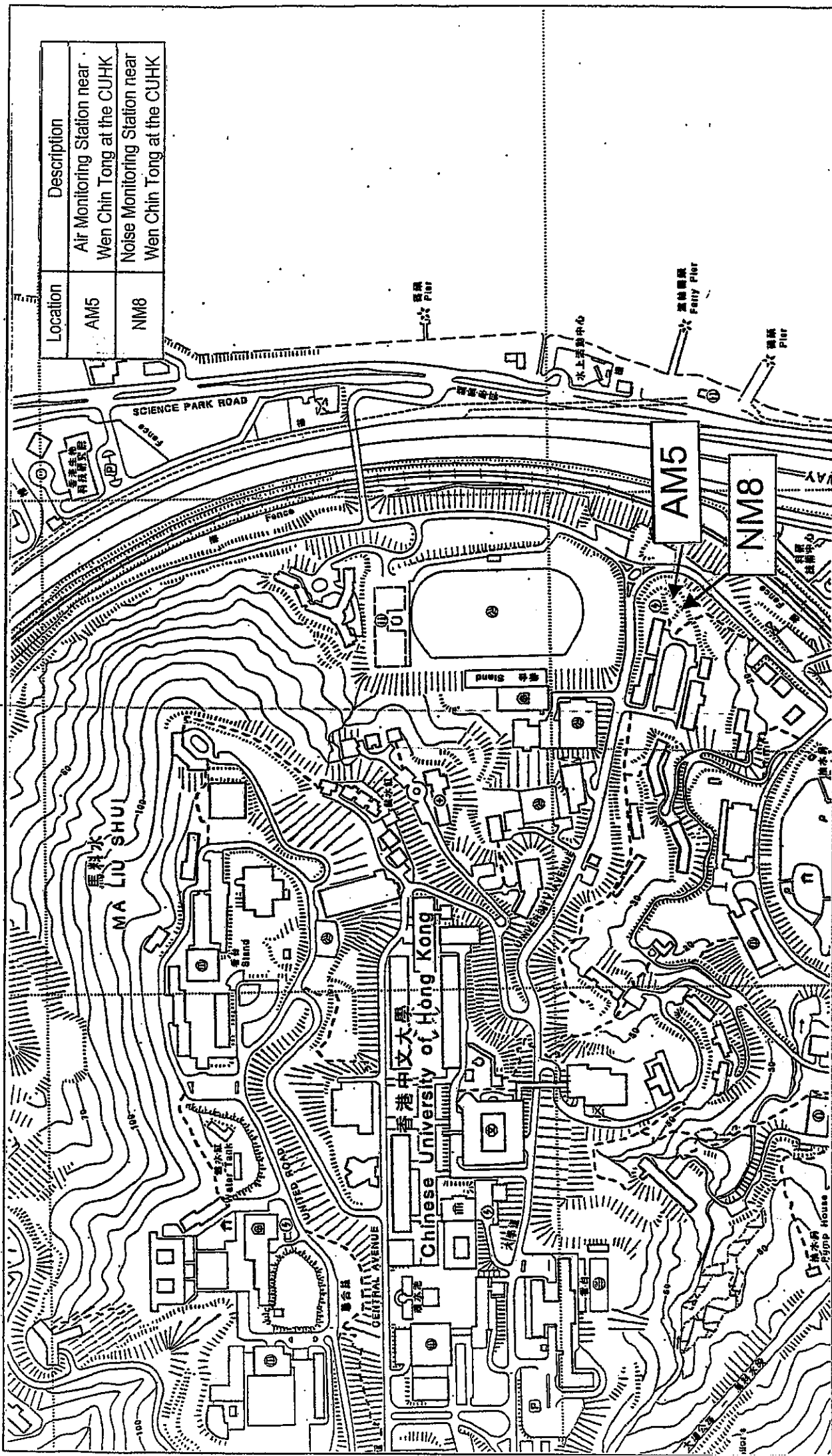
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Scale : ---

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June 2004

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 Ian Village



Remaining Engineering Infrastructure Works for Pak Shek Kok Development Scale : ---

Package 2A Contract No. TP 37/03

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



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Revised Date :
October 2004