東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED
8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Kaden Construction Limited

CONTRACT NO. DC/2007/18

YUNG SHUE WAN AND SOK KWU WAN VILLAGE SEWERAGE, STAGE 1 WORKS

MONTHLY IMPACT MONITORING REPORT NO.14

(JULY 2009)

Prepared by: _____
LAW, Sau Yee
Senior Environmental Officer

Checked by: _____
LAU, Chi Leung
Environmental Team Leader

Issue Date: 07 August 2009 *Report No.: ENA90577*

Scott Wilson CDM Joint Venture

Chief Engineer/Harbour Area Treatment Scheme
Drainage Services Department
5/F Western Magistracy
2A Pok Fu Lam Road
Hong Kong

Attention: Mr. C K Au

Your reference:

Our reference: 05117/6/10/327286

Date: 17 August 2009

BY FAX ONLY

Dear Sir

Contract No. DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works
Monthly Impact Monitoring Report No. 14

I refer to the Environmental Permit (EP-281/2007) and the email from the environmental team, ETS-Testconsult Limited with the revised report, dated 14 August 2009. I do not have further comment and have verified the captioned report.

Yours faithfully
SCOTT WILSON CDM JOINT VENTURE

Rodney Ip

ANCP/ancp

cc Kaden Construction Ltd (Attn: Mr Stephen Leung)
ETS-Testconsult (Attn: Ms Linda Law)
ER/LAMMA (Attn: Mr Ian Jones)
CDM (Attn: Mr Mark Sin)

TABLE OF CONTENTS Page

APPENDIX

Figures

Tables

EXECUTIVE SUMMARY

The Contractor, Kaden Construction Limited (Kaden), appointed Environmental Team of ETS-Testconsult Limited (ET) to undertake the environmental impact monitoring for "Contract No. DC/2007/18 Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works" (the Project) under the requirements and specifications of "the Environmental Permit (Application No. AEP-281/2007)" (the EP) and "the Final EM&A Manual – Outlying Islands Sewerage Stage 1 Phase 2 Package J – Sok Kwu Wan Sewage Collection, Treatment and Disposal Facilities" (the EM&A Manual).

This Monthly Impact Monitoring Report No.14 has been prepared by the ET of ETS-Testconsult Limited to document the impact monitoring works conducted for the Project in July 2009.

Construction Progress

The major construction works in this monitoring period were as below:

- *Sewer drainage pipe & manhole construction (include open cut & trenchless method); and*
- *Road reinstatement work.*

Environmental Monitoring Progress

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

- *Noise Monitoring (Day-time): 4 Occasions at 4 designated locations;*
- *24-hour TSP Monitoring: 5 Occasions at 4 designated locations;*
- *1-hour TSP Monitoring: 15 Occasions at 4 designated locations.*

Impact Air Quality Monitoring

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

Impact Noise Monitoring

No exceedances of Action and Limit Levels were recorded in this reporting month.

Waste Management

According to weekly site inspection, ET found that the Contractor followed the recommended procedures stipulated in the Waste Management Plan (WMP) on handling and disposal of wastes. In this reporting month, 112.8 m^3 Public Fill was generated and disposed to Sok Kwu Wan Refuse Transfer Station (SKWRTS) properly. Besides, 164 m^3 inert C&D materials reused in the Contract and 79 m^3 inert C&D materials reused in other Projects were recorded in this reporting month.

Site Inspection

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

Concerned Parties	*Dates of Audit / Inspection*
ET	*06, 16, 22 and 28 July 2009*
RE / IEC / Kaden / ET	*22 July 2009*

According to the summary of the weekly site inspections carried out in this month, it indicated that site practices of the Kaden were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory.

Summary of the site inspection findings in this reporting month is shown as below:

Item	Aspect	Finding	Action(s) to be taken by the Contractor	ET Verification
1	Air	A village vehicle containing C&D materials was found without cover during transportation during the weekly site inspection on 22/07/09.	The Contractor replied to cover the C&D materials during the transportation by using village vehicle.	During the subsequent weekly site inspection on 28/07/09, cover was found provided for the village vehicle.
2	Air	White smoke with dust or mist like matters was observed from drilling works at an open manhole S73 although water spraying was provided during the weekly site inspection on 22/07/09.	The Contractor replied to provide mitigation measures, such as apply a enclosure to prevent any dust / mist like matters from escaping to the nearby environment.	During the subsequent weekly site inspection on 28/07/09, no dust or mist was observed at S73. However, the Contractor was still reminded that dust or moist should not be observed during the drilling works.
3	Water	Follow up action to the outstanding finding in the previous month, no muddy water was noted discharged from the sedimentation tank at S143 during the weekly site inspection on 06/07/09.	Since the finding was improved, no further action is required to be taken by the Contractor.	Since the finding was improved, no further verification is required to be taken by ET.
4	Water	Debris and refuse were found accumulated inside the u-channel along the slope at S58-S59 during the weekly site inspection on 06/07/09.	The Contractor replied to collect the debris and refuse in the u-channel immediately.	During the subsequent weekly site inspection on 16/07/09, the debris and refuse accumulated inside the u-channel at S58-S59 were cleaned up.
5	Water	Stagnant water was observed inside the drip tray at S165 during the weekly site inspection on 16/07/09.	The Contractor replied to drain the stagnant water out from the drip tray.	During the subsequent weekly site inspection on 22/07/09, no water was noted inside the drip tray.
6	Water	The capability of temporary sedimentation facility at S146 was found insufficient to treat the waste water during the weekly site inspection on 22/07/09.	The Contractor replied to improve the design of the sedimentation facilities.	During the subsequent weekly site inspection on 28/07/09, the sedimentation facility at S146 was re-designed (by using two sedimentation tanks) so as to improve the capacity of sedimentation.
7	Water	Stagnant water was noted inside an idle sedimentation tank at S144-146 during the weekly site inspection on 22/07/09.	The Contractor replied to pump the stagnant water out of the tank in order to avoid mosquito breeding.	During the subsequent weekly site inspection on 28/07/09, no stagnant water was noted inside the sedimentation tank.
8	Water	During the weekly site inspection on 22/07/09, the sedimentation tank made by an used oil drum at S86 was found not suitable for treating site runoff because of its incorrect design (the outlet point is located at the lower part of the tank but the inlet pipe is at the top)	The Contractor replied to provide adequate sedimentation tanks in order to improve the treatment of wastewater.	During the subsequent weekly site inspection on 28/07/09, an adequate sedimentation tank was used.
9	Chemical	A drip tray was noted place on the top of the air compressor at S151-S165 during weekly site inspection on 22/07/09.	The Contractor replied to re-place the drip tray under the air-compressor.	During the subsequent weekly site inspection on 28/07/09, the drip tray was noted placed under the air-compressor.

Environmental Complaints, Notifications of Summons and Successful Prosecutions

No complaints, notifications of summons and successful prosecutions were received in this reporting period.

Conclusion and Recommendations

The monitored environmental data indicated that no unacceptable environmental impacts arising from the Project had been caused to the surrounding sensitive receivers. The environmental mitigation measures had been effective in controlling potential impacts to within acceptable sensitive receivers. Besides, the Contractor was recommended to maintain good site practice in order to minimize the environmental impacts at the site.

Construction Programme for Coming Month

The Construction programme for the Project is shown in Appendix E.

As informed by the Contractor, the activities to be conducted by them in coming month included:

- *Sewer drainage pipe & manhole construction (include open cut & trenchless method);*
- *Road reinstatement work; and*
- *Protection of uncommon tree species.*

Future Key Issues

Based on the 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; and*
- *Maintain good site practice to minimize environmental impacts at the site.*

Internet Website

The monthly EM&A report can be accessed on the web at http://www.skwsewer.com.

1.0 INTRODUCTION

The Customer, Kaden Construction Limited (Kaden), appointed Environmental Team of ETS-Testconsult Limited to undertake the environmental impact monitoring for "Contract No. DC/2007/18 Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works" (the Project) under the requirements and specifications of "the Environmental Permit (Application No. AEP-281/2007)" (the EP) and "the Final EM&A Manual – Outlying Islands Sewerage Stage 1 Phase 2 Package J – Sok Kwu Wan Sewage Collection, Treatment and Disposal Facilities" (the EM&A Manual).

In accordance with the Section 5 of the EP, 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 in July 2009. This monthly EM&A report can be accessed on the web at http://www.skwsewer.com.

2.0 PROJECT INFORMATION

2.1 Background

Under this Project, Kaden is required to construct village sewerage in Yung Shue Wan and Sok Kwu Wan, Lamma Island.

Village sewage works will undertake in this Project. These will comprise laying approximately 1.4km of sewerage pipes from 220mm to 350mm diameter in Sok Kwu Wan Village.

As the main Contractor of the captioned project contracted by, Kaden will follow the environmental monitoring recommendation stated in the EM&A Manual that was prepared with reference to the EIA Report (Register No.: AEIAR-075/2003).

According to the EP and the EM&A Manual, the environmental programme is mainly focused on the construction activities of this Project in Sok Kwu Wan. At the same time, all air quality and noise monitoring stations proposed in the EM&A Manual are located in Sok Kwu Wan. The baseline report is prepared in accordance with EP (No. EP-281/2007) for the Designated Project "Outlying Islands Sewerage Stage 1 Phase 2 – Sok Kwu Wan Sewage Collection, Treatment and Disposal Facilities" and the EM&A Manual.

2.2 Site Description

The general layout plan of the project in Sok Kwu Wan is shown in Drawing No. 2005/C1/2004, 2005/C1/2005 and 2005/C1/2006.

Surrounding the construction site, there are air and noise sensitive receivers at Chung Mei Village, Sok Kwu Wan and Ta Shui Wan.

2.3 Construction Programme

The construction programme is shown in Appendix E.

2.4 Project Organization and Management Structure

The organization chart 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*	*Key Staff*	*Tel. No.*	*Fax No.*
Scott Wilson CDM JV	*Engineer Representative*	*Ir Ian J Jones*	*2982 0240*	*2982 4129*
Scott Wilson CDM JV	*Independent Environmental Checker*	*Mr. Rodney Ip*	*2410 3750*	*2428 9922*
Kaden Construction Ltd	*Contractor*	*Ir Stephen Leung*	*2454 9102*	*2465 1207*
ETS-Testconsult Ltd	*Environmental Team*	*Mr. C L Lau*	*2946 7791*	*2695 3944*

2.6 Construction Progress in this reporting month

A summary of the major construction activities undertaken in this monitoring month were:

- *Sewer drainage pipe & manhole construction (include open cut & trenchless method); and*
- *Road reinstatement work.*

3.0 IMPACT AIR QUALITY MONITORING

3.1 Monitoring Requirement

Both 1-hr and 24-hr TSP monitoring is required to be conducted in order to monitor the air quality of the environment during the construction period. For regular monitoring, a sampling frequency of at least one in every six days should be carried out at all designated monitoring stations.

3.2 Monitoring Equipment

24-hour TSP Monitoring

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 air sampling, the flow rate of the high volume sampler was properly set (between 0.6m^3/min and 1.7m^3/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 recoded.
- 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 were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- The HVSs used were calibrated before the commencement of air quality monitoring, after maintenance and every two months. Five-point calibration by using calibration kit (e.g. Tisch TE-5025A) was performed to establish a relationship between the flow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, QStd, in m^3/min.

1-hour TSP Monitoring

1-hour TSP levels were measured by using 1-hour dust meter which are capable of producing comparable results as the by high volume sampling method, to indicate short event impacts.

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-hour dust meter should be checked at 6-month intervals throughout all stages of impact air quality monitoring. Through a five-point calibration by placing the dust meter and calibrated HVS under the same environmental condition, a relationship in TSP level ($\mu g/m^3$) between dust meter and HVS was established.

3.3 Laboratory Measurement / Analysis

Environmental Laboratory of ETS-Testconsult which is HOKLAS accredited, carried out the laboratory analysis.

A clean filter paper with no pinholes was used for each time of monitoring. Before sampling, the filter paper of size 8" x 10" was labelled and conditioned in a humidity controlled chamber for over 24 hours and pre-weighed before use for the sampling.

After sampling, the filter paper loaded with dust was kept in a clean and tightly sealed plastic bag. The filter paper then returned to the laboratory for reconditioning in the humidity controlled chamber following by accurate weighing by an electronic balance with readout down to 0.1mg. The balance was calibrated against a traceable standard.

All the analysis results and collected samples were kept in a good condition for 6 months after completion of the monitoring exercise before disposal.

3.4 Monitoring Parameters, Frequency and Duration

Table 3.1 summarizes the monitoring parameters, monitoring duration and frequencies of impact air quality monitoring.

Table 3.1 Monitoring parameters, duration and frequencies of impact air quality monitoring

Parameter	*Duration*	*Frequency*
24-hr TSP	*24 hr (0000-2400)*	*One in every six days*
1-hr TSP	*1 hr (0700-1900)*	*3 times per day in every six days*

3.5 Monitoring Locations

As the requirement in the EM&A Manual, three designated air monitoring stations were selected. Table 3.2 tabulates the air quality monitoring locations of this Project.

Table 3.2 Air monitoring stations

Air monitoring station	*Description of location*
AM1	*Squatter house in Chung Mei Village*
AM2	*Squatter house in Chung Mei Village*
AM3	*Football Court*

3.6 Action and Limit Levels

Action and Limit levels for 24-hr TSP and 1-hr TSP derived as illustrated in Table 3.3.

Table 3.3 Action and Limit levels for 24-hr TSP and 1-hr TSP

Monitoring Station	*24-hr TSP ($\mu g/m^3$)*		*1-hr TSP ($\mu g/m^3$)*	
	Action Level	*Limit Level*	*Action Level*	*Limit Level*
AM1	*173*	*260*	*343*	*500*
AM2	*175*	*260*	*331*	*500*
AM3	*191*	*260*	*353*	*500*

3.7 Event-Action Plans

Should the results of the monitoring parameters at any designated monitoring stations indicate that the air quality criteria are exceeded, the actions in accordance with the Event and Action Plan that summarized in Appendix D should be carried out.

3.8 Results

Totally 5 occasions of 24-hr TSP monitoring and 18 occasions of 1-hr TSP monitoring were carried out in this reporting period. All monitoring data of 1-hr and 24-hr TSP monitoring is provided in Appendix B2. Graphical presentation of both 1-hr and 24-hr TSP monitoring results for the reporting month is shown in Appendix B3.

No exceedances of Action and Limit Level of 1-hr and 24-hr TSP monitoring results were recorded during the reporting month. Table 3.4 summaries the 1-hr and 24-hr TSP monitoring results.

Table 3.4 Summary of 1-hr and 24-hr TSP Monitoring Results

Parameter	1-hr TSP Monitoring								
Station	AM1			AM2			AM3		
Date	Time	Result	Exceed*	Time	Result	Exceed*	Time	Result	Exceed*
06/07/09	13:30	216	X	13:40	201	X	09:15	168	X
06/07/09	14:30	201	X	14:40	187	X	10:15	199	X
06/07/09	15:30	195	X	15:40	175	X	11:15	156	X
10/07/09	09:15	118	X	09:18	117	X	13:00	119	X
10/07/09	10:15	132	X	10:18	135	X	14:00	152	X
10/07/09	11:15	125	X	11:18	123	X	15:00	138	X
16/07/09	09:08	84	X	09:13	97	X	13:00	120	X
16/07/09	10:08	86	X	10:13	108	X	14:00	124	X
16/07/09	11:08	99	X	11:13	104	X	15:00	113	X
22/07/09	13:00	115	X	13:06	113	X	09:12	144	X
22/07/09	14:00	135	X	14:06	127	X	10:12	139	X
22/07/09	15:00	124	X	15:06	122	X	11:12	116	X
28/07/09	09:20	104	X	09:30	104	X	14:38	155	X
28/07/09	10:20	123	X	10:30	117	X	15:38	148	X
28/07/09	13:05	134	X	13:12	129	X	16:38	130	X

Parameter	24-hr TSP Monitoring					
Station	AM1		AM2		AM3	
Date	Result	Exceed*	Result	Exceed*	Result	Exceed*
06/07/09	25	X	28	X	29	X
10/07/09	52	X	48	X	95	X
16/07/09	30	X	31	X	77	X
22/07/09	27	X	29	X	18	X
28/07/09	41	X	47	X	47	X

Remark (*): L=Limit Level exceedance, A=Action Level exceedance and X=not an exceedance

4.0 IMPACT NOISE MONITORING

4.1 Monitoring Requirements

As the requirement in the EM&A Manual, impact noise monitoring was conducted for a weekly basis at designated monitoring locations.

4.2 Monitoring Equipment

Integrating Sound Level Meters used for impact noise monitoring 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 (Lx). They complied with International Electro technical Commission Publications 651:1979 (Type1) and speed in m/s was used to monitor the wind speed. Table 4.1 summarized the noise monitoring equipment model used during the impact monitoring. Copies of calibration certificates and Calibration Summary for noise meters and calibrators used are attached in Appendix C1.

Table 4.1 Noise Monitoring Equipment

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

4.3 Monitoring Parameters, duration and Frequency

Impact noise monitoring for the A-weighted levels L_{eq}, L_{10} and L_{90} were recorded once per week. Data obtained from impact noise monitoring was processed and presented as below:

- *Daytime: three sets of 30-minute noise level monitored between 0700-1900 hrs on normal weekdays;*
- *Evening-time*: three sets of 5-minute noise level monitored between 1900-2300 hrs ;*
- *Night-time*: three sets of 5-minute noise level monitored between 2300-0700 hrs of next day; and*
- *Holiday*: three sets of 5-minute noise level monitored between 0700-1900 hrs on holiday.*

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

Duration, frequencies and parameters of noise measurement are presented in Table 4.2.

Table 4.2 Duration, Frequencies and Parameters of Noise Monitoring

Time period	*Duration/min*	*Parameters*
Day-time: 0700-1900 hrs on normal weekday	*30*	L_{eq}, L_{10}, L_{90}
Evening-time: 1900-2300 hrs	*5*	L_{eq}, L_{10}, L_{90}
Night-time: 2300-0700 hrs of next day	*5*	L_{eq}, L_{10}, L_{90}
Holiday: 0700-1900 hrs	*5*	L_{eq}, L_{10}, L_{90}

4.4 Monitoring Locations

Since the owner of 1B Sok Kwu Wan objected to set up the noise monitoring station NM3 at 1B Sok Kwu Wan (Eastern Façade), an alternative position, Sok Kwu Wan Sitting-out Area RNM3, which is just a 3m width footpath away from house 1B for the free field noise measurement, was proposed by ET. Under the approval from ER and agreement from the IEC and EPD, both baseline and impact noise monitoring was carried out at RNM3.

Hence, there were four noise monitoring locations NM1, NM2, RNM3 and NM4 required to carry out impact noise monitoring.

The details of noise monitoring stations are summarized in Table 4.3.

Table 4.3 Noise Monitoring Stations

Noise monitoring station	*Description of location*	*Type of Measurement*
NM1	*1, Chung Mei Village*	*Façade*
NM2	*20, Sok Kwu Wan*	*Façade*
RNM3	*Sok Kwu Wan Sitting-out Area*	*Free Field*
NM4	*2-storey village house at Ta Shui Wan*	*Façade*

4.5 Monitoring Methodology

Instrumentation

Integrating Sound Level Meters were employed for noise monitoring.

Operation/Analysis Procedures

- 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 1.0 dB(A), the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment;
- During the monitoring period, the L_{eq}, L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- Noise measurement may be paused during periods of high intrusive noise (e.g. dog baking directly towards the receiver of noise level meter). If noise measurement was paused during high intrusive noise, the noise level meter would be resumed and continued the noise measurement and the observations would also be recorded. Any pause intervals were not included in the measurement time; and
- Noise monitoring would be cancelled in the presence of fog, rain, storm, 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 are cleaned with soft cloth at quarterly intervals; and
- The meters are sent to supplier or HOKLAS laboratory to check and calibrated at yearly intervals.

4.6 Actions and Limit Levels

The Action and Limit Levels (AL Levels) were established in accordance to the Clause 3.6.4 of the EM&A Manual. Table 4.4 presents the AL levels for noise monitoring.

Table 4.4 Action and Limit Levels for Noise Monitoring

Time Period	*Action*	*Limit*
0700 –1900 hrs normal weekdays	*When one documented complaint is received*	*75 dB(A)*

4.7 Event-Action Plans

Should the results of the monitoring parameters at any designated monitoring stations indicate that the noise level criteria are exceeded, the actions in accordance with the Event and Action Plan that summarized in Appendix D should be carried out.

4.8 Results

Totally 4 occasions of 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.

No exceedances of Action Level of noise monitoring were recorded in this reporting month since no complaint on noise issue was received. Besides, no exceedances in Limit Level were recorded according to the results from Day-time noise monitoring. Table 4.5 summaries the noise daytime monitoring results in the reporting period.

Table 4.5 Summary of Noise Daytime Monitoring Results

Monitoring Parameter	*Date*	*NM1*		*NM2*		*RNM3#*		*NM4*	
		Result	*Exceedance**	*Result*	*Exceedance**	*Result*	*Exceedance**	*Result*	*Exceedance**
Noise Daytime Monitoring	*06/07/09*	*69.4*	*X*	*72.5*	*X*	*65.3*	*X*	*60.4*	*X*
	16/07/09	*55.6*	*X*	*65.9*	*X*	*66.8*	*X*	*54.8*	*X*
	22/07/09	*75.0*	*X*	*66.2*	*X*	*64.2*	*X*	*59.2*	*X*
	28/07/09	*71.2*	*X*	*67.9*	*X*	*63.8*	*X*	*58.7*	*X*

Remark (*): L = Limit Level exceedance, A = Action Level exceedance and X = not an Exceedance
(#): 3dB(A) correction had been added to the results since noise measurements at RNM3 were free-field.

5.0 SITE INSPECTION

During this reporting month, weekly site inspections were undertaken on 06, 16, 22 and 28 July 2009 by ET. Monthly joint site inspection at 22 July 2009 was carried out by Engineer's Representative, IEC, Kaden and ET. A summary of implementation status of mitigation measures on site inspections is presented in Appendix F.

5.1 Summary of the site inspection findings and Action(s) taken by Kaden and ET

According to the summary of the weekly site inspections carried out in this month, it indicated that site practices of the Kaden were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory. Summary of the site inspection findings in this reporting month is shown in Table 5.1.

Table 5.1 Summary of Site Inspection Findings and Action(s) taken by Kaden and ET

Item	*Aspect*	*Finding*	*Action(s) to be taken by the Contractor*	*ET Verification*
1	*Air*	*A village vehicle containing C&D materials was found without cover during transportation during the weekly site inspection on 22/07/09.*	*The Contractor replied to cover the C&D materials during the transportation by using village vehicle.*	*During the subsequent weekly site inspection on 28/07/09, cover was found provided for the village vehicle.*
2	*Air*	*White smoke with dust or mist like matters was observed from drilling works at an open manhole S73 although water spraying was provided during the weekly site inspection on 22/07/09.*	*The Contractor replied to provide mitigation measures, such as apply a enclosure to prevent any dust / mist like matters from escaping to the nearby environment.*	*During the subsequent weekly site inspection on 28/07/09, no dust or mist was observed at S73. However, the Contractor was still reminded that dust or moist should not be observed during the drilling works.*
3	*Water*	*Follow up action to the outstanding finding in the previous month, no muddy water was noted discharged from the sedimentation tank at S143 during the weekly site inspection on 06/07/09.*	*Since the finding was improved, no further action is required to be taken by the Contractor.*	*Since the finding was improved, no further verification is required to be taken by ET.*
4	*Water*	*Debris and refuse were found accumulated inside the u-channel along the slope at S58-S59 during the weekly site inspection on 06/07/09.*	*The Contractor replied to collect the debris and refuse in the u-channel immediately.*	*During the subsequent weekly site inspection on 16/07/09, the debris and refuse accumulated inside the u-channel at S58-S59 were cleaned up.*
5	*Water*	*Stagnant water was observed inside the drip tray at S165 during the weekly site inspection on 16/07/09.*	*The Contractor replied to drain the stagnant water out from the drip tray.*	*During the subsequent weekly site inspection on 22/07/09, no water was noted inside the drip tray.*
6	*Water*	*The capability of temporary sedimentation facility at S146 was found insufficient to treat the waste water during the weekly site inspection on 22/07/09.*	*The Contractor replied to improve the design of the sedimentation facilities.*	*During the subsequent weekly site inspection on 28/07/09, the sedimentation facility at S146 was re-designed (by using two sedimentation tanks) so as to improve the capacity of sedimentation.*

Item	Aspect	Finding	Action(s) to be taken by the Contractor	ET Verification
7	Water	Stagnant water was noted inside an idle sedimentation tank at S144-146 during the weekly site inspection on 22/07/09.	The Contractor replied to pump the stagnant water out of the tank in order to avoid mosquito breeding.	During the subsequent weekly site inspection on 28/07/09, no stagnant water was noted inside the sedimentation tank.
8	Water	During the weekly site inspection on 22/07/09, the sedimentation tank made by an used oil drum at S86 was found not suitable for treating site runoff because of its incorrect design (the outlet point is located at the lower part of the tank but the inlet pipe is at the top)	The Contractor replied to provide adequate sedimentation tanks in order to improve the treatment of wastewater.	During the subsequent weekly site inspection on 28/07/09, an adequate sedimentation tank was used.
9	Chemical	A drip tray was noted place on the top of the air compressor at S151-S165 during weekly site inspection on 22/07/09.	The Contractor replied to re-place the drip tray under the air-compressor.	During the subsequent weekly site inspection on 28/07/09, the drip tray was noted placed under the air-compressor.

5.2 Recommendations on site inspection findings in Site Inspections of this month

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

- *Providing dust suppression measures (such as water spraying) during the construction works especially excavation and earth moving operation;*
- *Checking and maintaining all the site machines to prevent black smoke emission;*
- *Providing briefing to the concerned site staff on remedial actions, such as handling method of chemicals and chemical waste;*
- *Maintain good waste management at the site; and*
- *Remove all stagnant water and applied proper treatment facilities to wastewater before discharge.*

6.0 Status of Environmental Permits

All permits/licenses obtained in this reporting month are summarized in Table 6.1.

Table 6.1 Summary of Environmental Licensing and Permit Status

Description	Permit No.	Valid Period		Section
		From	To	
Environmental Permit	EP-281/2007	29/06/07	End of Project	Valid
Water Discharge Licence	EP890/W2/XD 026	23/05/08	31/03/12	Valid
Notification under APCO	Application had been submitted to EPD on 15 April 2008			

7.0 WASTE MANAGEMENT

The quantities of waste for disposal from Sok Kwu Wan in this month are summarized in Table 7.1.

Table 7.1 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 (in '000m^3)	0.3558		1.0351
	Broken Concrete (in '000m^3)	0.0070	SKWRTS	0.0338
	Reused in the Contract (in '000m^3)	0.164	For Stockpile / Reuse	0.422
	Reused in other Projects (in '000m^3)	0.079	N/A	0.208
	Disposal as Public Fill (in '000m^3)	0.1128	SKWRTS	0.334
C&D Waste	Metals (in '000kg)	0	N/A	0
	Paper/Cardboard Packaging (in '000kg)	0	N/A	0
	Plastics (in '000kg)	0	N/A	0
	Chemical Waste (in '000kg)	0	N/A	0
	Other, e.g. General Refuse (tonne)	0	SKWRTS	4.84

8.0 ECOLOGY

A comprehensive tree survey was carried out by Kaden in mid 2008. The two uncommon tree species (Celtis timorensis and Celtis biondii) could not be identified on site as per the Figure 4 of the EP.

A joint visit amongst EPD. AFCD, Kaden, DSD and RE was subsequently held on 24 March 2009 and some immature Celtic timorensis plants were identified at certain locations at Chung Mei. It was agreed that a full vegetation survey (in addition to the previous tree survey) should be conducted to identify the immature uncommon species.

Kaden had employed a landscape subcontractor "Bluet" and carried out a vegetation survey on 17 April 2009. Some immature uncommon species had been identified at Chung Mei near the Works Area. Regarding the comments from EPD, an updated vegetation survey report prepared on 07 August 2009 and attached in Appendix G.

The uncommon plants have been labelled and fenced off with safety net and notices have been posted for warning the site personnel of the presence of the uncommon tree species. Photos attached in Appendix G present the fencing and protection provided for those uncommon species.

9.0 ARCHAEOLOGY AND CULTURAL HERITAGE

Refer to the Section 9 of EM&A Manual, watching brief works were conducted in Chung Mei, Sok Kwu Wan by Archaeological Assessments Limited on 01 September 2008 and 12 June 2009.

The watching brief works took place along approximately 50m long alignment in two segments, MHS52 to MHS54 on 1st September 2008 and MHS50 to MHS52 on 12th June 2009. In overview, the steep lower hill slope area traversed by the MHS50 and MHS54 has seen little or no human activity prior to the 20th century and in contrast to the valley to the west, can be considered to have no archaeological potential. Details of the watching brief works present in Appendix H.

10.0 ENVIRONMENTAL NON-CONFORMANCE

10.1 Summary of Air Quality and Noise monitoring

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

No exceedances of Action Level of noise monitoring were recorded in this reporting month since no complaint on noise issue was received. Besides, no exceedances in Limit Level were recorded according to the results from Day-time noise monitoring.

No evening-time, night-time and holiday noise monitoring were required since no construction works were processed during these periods.

10.2 Summary of Environmental Complaints, Notifications of Summons and Successful Prosecutions

No complaints, notifications of summons and successful prosecutions were received in this reporting month. A summary of environmental complaints, notifications of summons and successful prosecutions was given Table 9.1.

Table 10.1 Statistical Summary of Environmental Complaint-log

Reporting Period	*Complaint logged*		*Summons served*		*Successful Prosecution*	
	Frequency	*Cumulative*	*Frequency*	*Cumulative*	*Frequency*	*Cumulative*
June 2008	*0*	*0*	*0*	*0*	*0*	*0*
July 2008	*0*	*0*	*0*	*0*	*0*	*0*
August 2008	*0*	*0*	*0*	*0*	*0*	*0*
September 2008	*0*	*0*	*0*	*0*	*0*	*0*
October 2008	*1*	*1*	*0*	*0*	*0*	*0*
November 2008	*0*	*1*	*0*	*0*	*0*	*0*
December 2008	*0*	*1*	*0*	*0*	*0*	*0*
January 2009	*0*	*1*	*0*	*0*	*0*	*0*
February 2009	*0*	*1*	*0*	*0*	*0*	*0*
March 2009	*0*	*1*	*0*	*0*	*0*	*0*
April 2009	*0*	*1*	*0*	*0*	*0*	*0*
May 2009	*0*	*1*	*0*	*0*	*0*	*0*
June 2009	*0*	*1*	*0*	*0*	*0*	*0*
July 2009	*0*	*1*	*0*	*0*	*0*	*0*

11.0 IMPLEMENTATION STATUS

11.1 Implementation Status of Environmental Mitigation Measures

Kaden has been implementing the required environmental mitigation measures indicating in Appendix A of the EM&A manual. A summary of the implementation status of the mitigation measures is presented in Appendix F.

11.2 Implementation Status of Event and Action Plan

No exceedances of Action and limit Levels of noise air quality monitoring were recorded in this reporting month and hence no further actions were required to be taken.

11.3 Implementation Status of Environmental Complaint Handling

No complaints was received in this reporting month and hence no further actions were required to be handled.

11.4 Implementation Status of Notification of Summons and Prosecution

There were no notifications of summons respect to environmental issues registered in this reporting month.

12.0 Conclusion and discussion

According to the summary of noise and air quality monitoring results, no exceedances of Action and Limit Level were recorded during the reporting period.

According to the ET weekly site inspections carried out in this reporting month, it indicated that site practices of the Kaden were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory. Summary of the site inspection findings is shown in Table 5.1.

The monitored environmental results indicated that no unacceptable environmental impacts arising from the Project had been caused to the surrounding sensitive receivers. The environmental measures had been effective in controlling potential impacts to within acceptable sensitive receivers.

No complaints, notifications of summons and successful prosecutions were received in this reporting period.

13.0 FUTURE KEY ISSUES

13.1 Upcoming Environmental Monitoring Schedule in coming monitoring month

Proposed Environmental Monitoring program in coming month is presented as following table:

Table 13.1 Proposed Environmental Monitoring Schedule in coming month

August 2009						
Sun	*Mon*	*Tue*	*Wed*	*Thu*	*Fri*	*Sat*
						1
2	*3* ***1-hr TSP x 3*** *24-hr TSP* *NM* ***Weekly SI***	*4*	*5*	*6*	*7* ***1-hr TSP x 3*** *24-hr TSP*	*8*
9	*10*	*11*	*12*	*13* ***1-hr TSP x 3*** *24-hr TSP* *NM* ***Weekly SI***	*14*	*15*
16	*17*	***18***	*19* ***1-hr TSP x 3*** *24-hr TSP* *NM* ***Weekly SI***	*20*	*21*	*22*
23	*24*	***25*** ***1-hr TSP x 3*** *24-hr TSP* *NM* ***Weekly SI***	*26*	*27*	*28*	*29*
30	*31* ***1-hr TSP x 3*** *24-hr TSP* *NM* ***Weekly SI***					

13.2 Upcoming Construction Works Schedule in coming month

Major construction works planned to be carried out in coming month are shown as below:

- *Sewer drainage pipe & manhole construction (include open cut & trenchless method);*
- *Road reinstatement work; and*
- *Protection of uncommon tree species.*

13.3 Environmental Issues for the Coming Month

Key issues to be considered in the coming month include:

- *Dust generated from the construction activities; and*
- *Noise generated from the noisy activities.*

Mitigation measures to be required in the coming month:

Air Quality Impact

- *To provide adequate water spraying on roads and working platform;*
- *To ensure implementation of the dust mitigation measures for the construction activities; and*
- *To provide proper maintenance for vehicles and machines on site.*

Noise

- *To switch off equipment if not in use;*
- *To operate silent equipment;*
- *To identify the noise sources inside and outside of the site; and*
- *To re-schedule the work activities in the event of valid noise exceedance.*

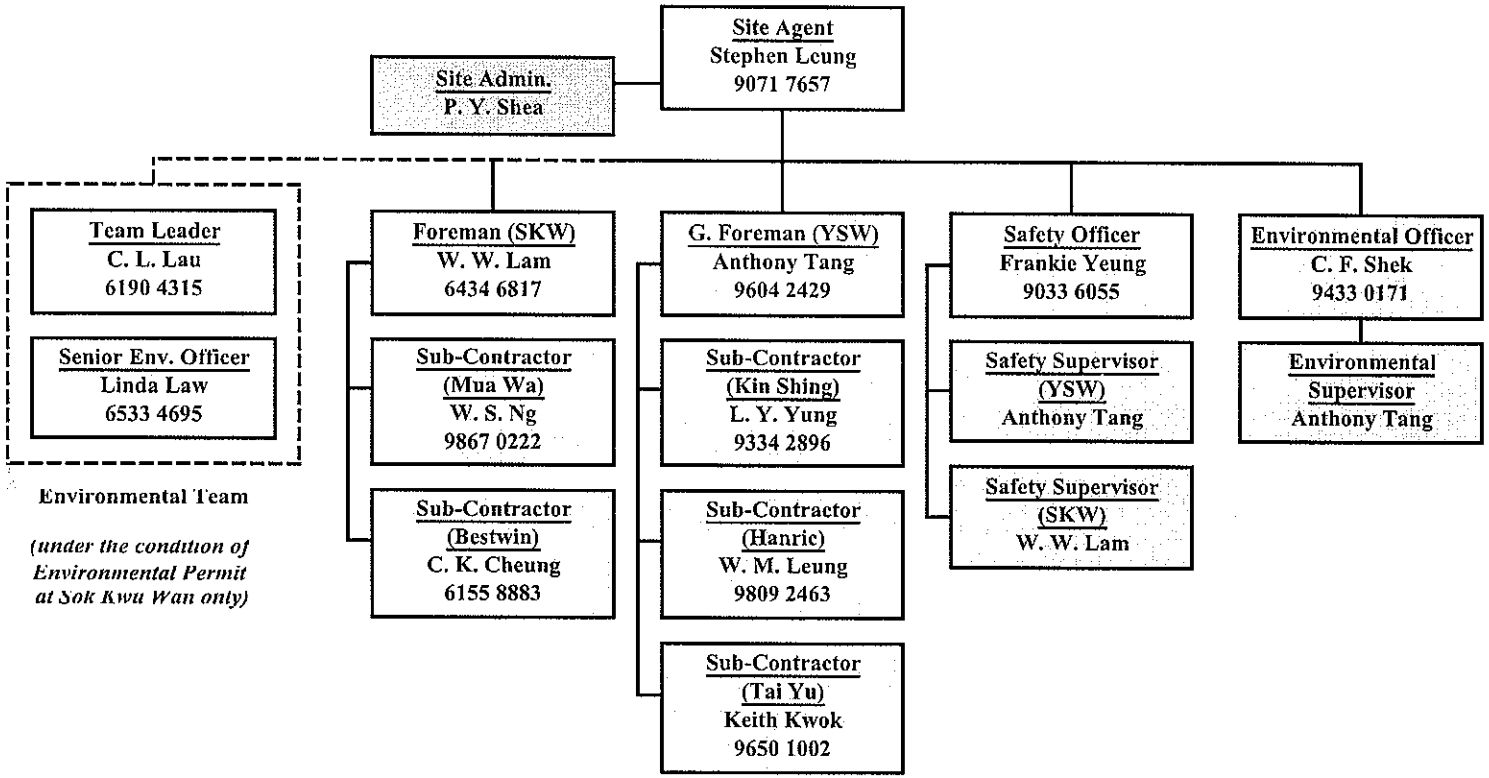
Appendix A

Organization Chart and Lines of Communication

Kaden Construction Limited

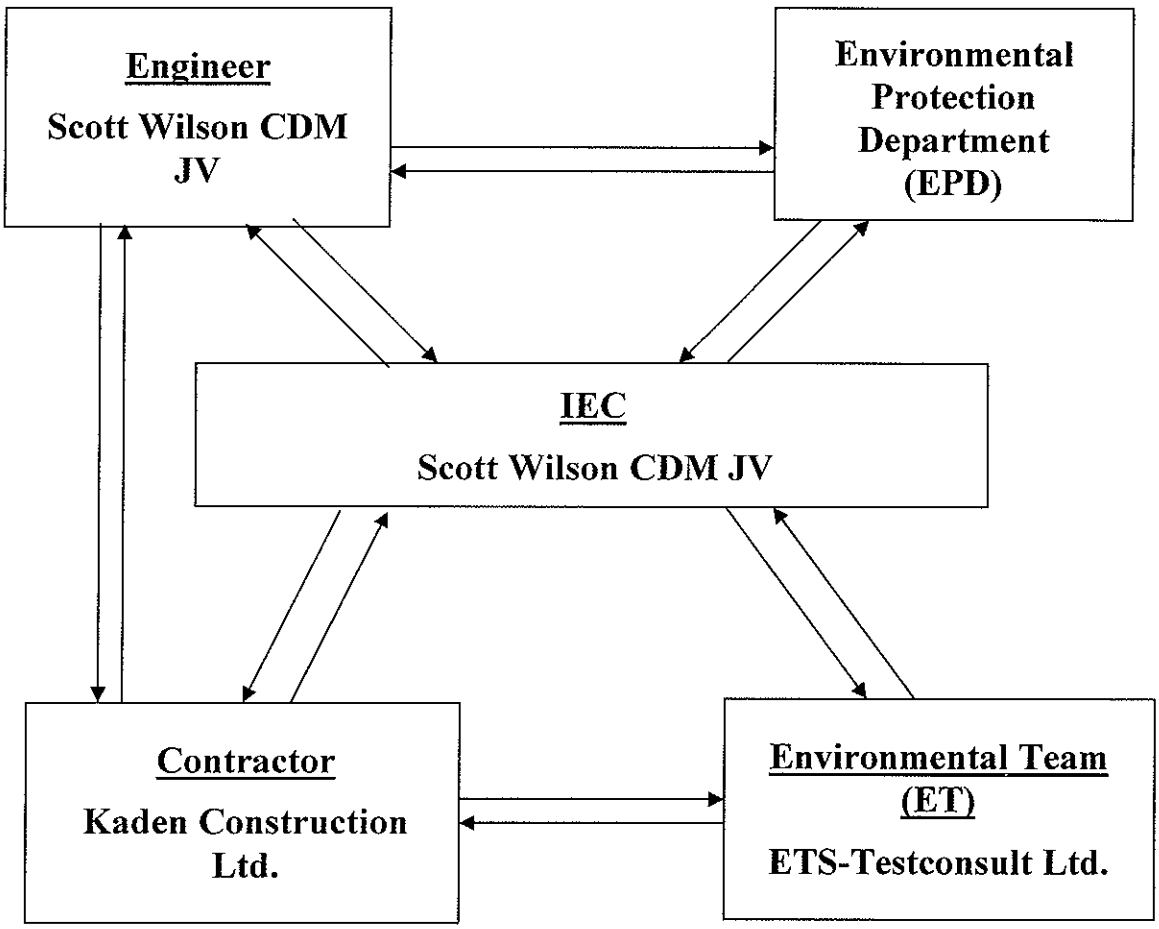
DSD Contract No. DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

Organization Structure for Environmental Management (EMP Rev. 17.00)



Updated on 01/05/2009
Printed on 2009/8/5

Lines of Communication



Appendix B1

Calibration Certificates for

Impact Air Quality Monitoring Equipments

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED
8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 18 June 2009

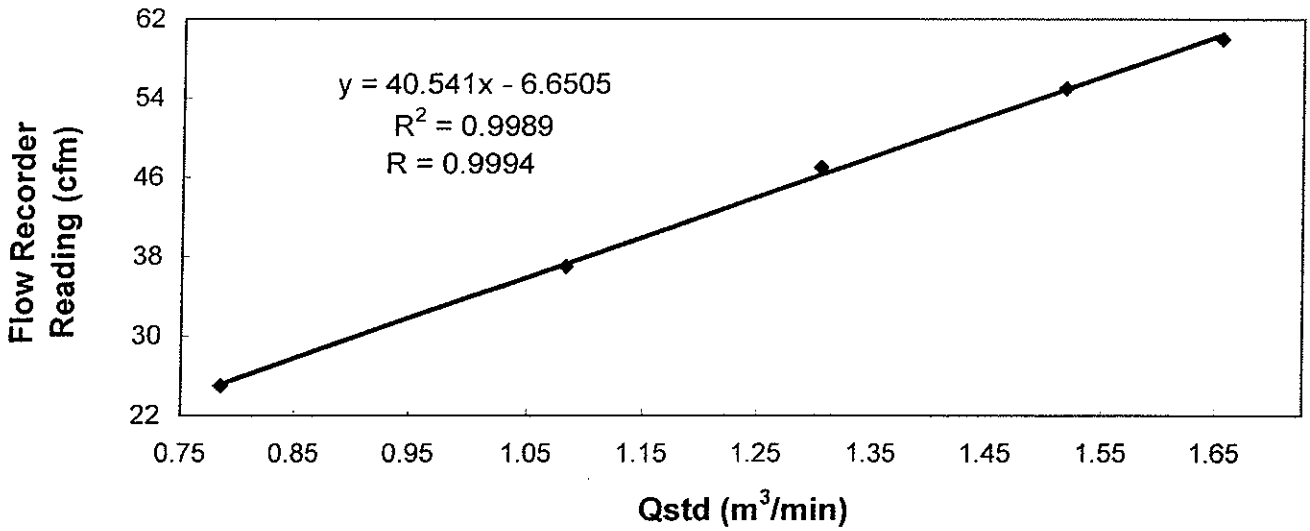
Serial No. : 1173 (ET / EA / 003 / 17)

Calibration Due Date : 17 August 2009

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	60	55	47	37	25
Qstd (Actual flow rate, m^3/min)	1.65	1.52	1.31	1.08	0.78
Pressure : 753.06 mmHg		Temp. : 306 K			



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

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

Calibrated by : _____
LI, Wan Lung
(Environmental Technician)

Approved by : _____
CHOW, Hoi Tat
(Assistant Environmental Officer)

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED
8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 18 June 2009

Serial No. : 9865 (ET / EA / 003 / 14)

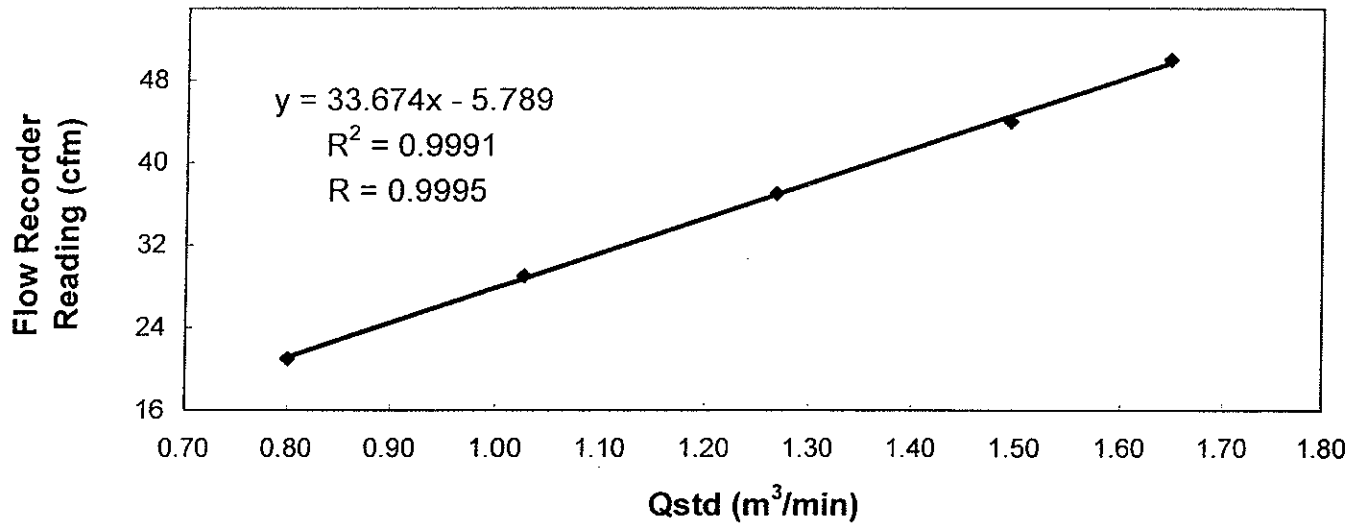
Calibration Due Date : 17 August 2009

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	50	44	37	29	21
Qstd (Actual flow rate, m^3/min)	1.65	1.49	1.27	1.03	0.80
Pressure : 753.06 mm Hg		Temp. : 306 K			

Sampler 9865 Calibration Curve
Site: Sok Kwu Wan (AM-2)



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 : _____
LI, Wan Lung
(Environmental Technician)

Approved by : _____
CHOW, Hoi Tat
(Assistant Environmental Officer)

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Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 18 June 2009

Serial No. : 9912 (ET / EA / 003 / 15)

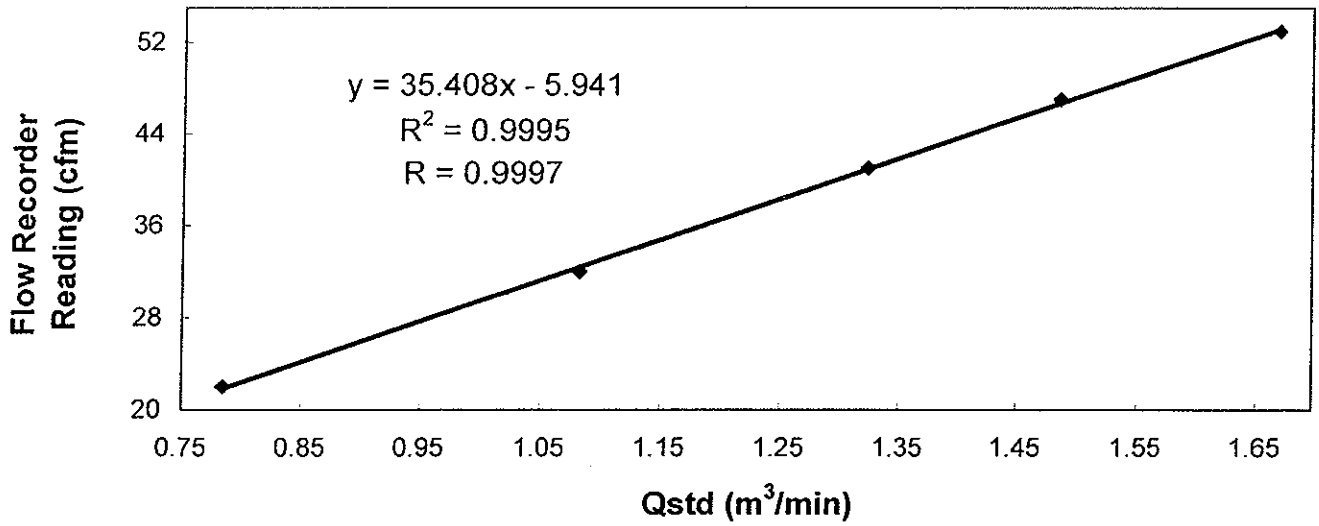
Calibration Due Date : 17 August 2009

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	53	47	41	32	22
Qstd (Actual flow rate, m^3/min)	1.67	1.49	1.32	1.08	0.78
Pressure : 753.06 mm Hg		Temp. : 306 K			

Sampler 9912 Calibration Curve
Site: Sok Kwu Wan (AM-3)



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 : _____
LI, Wan Lung
(Environmental Technician)

Approved by : _____
CHOW, Hoi Tat
(Assistant Environmental Officer)

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ETS-TESTCONSULT LIMITED
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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 : 10 July 2009

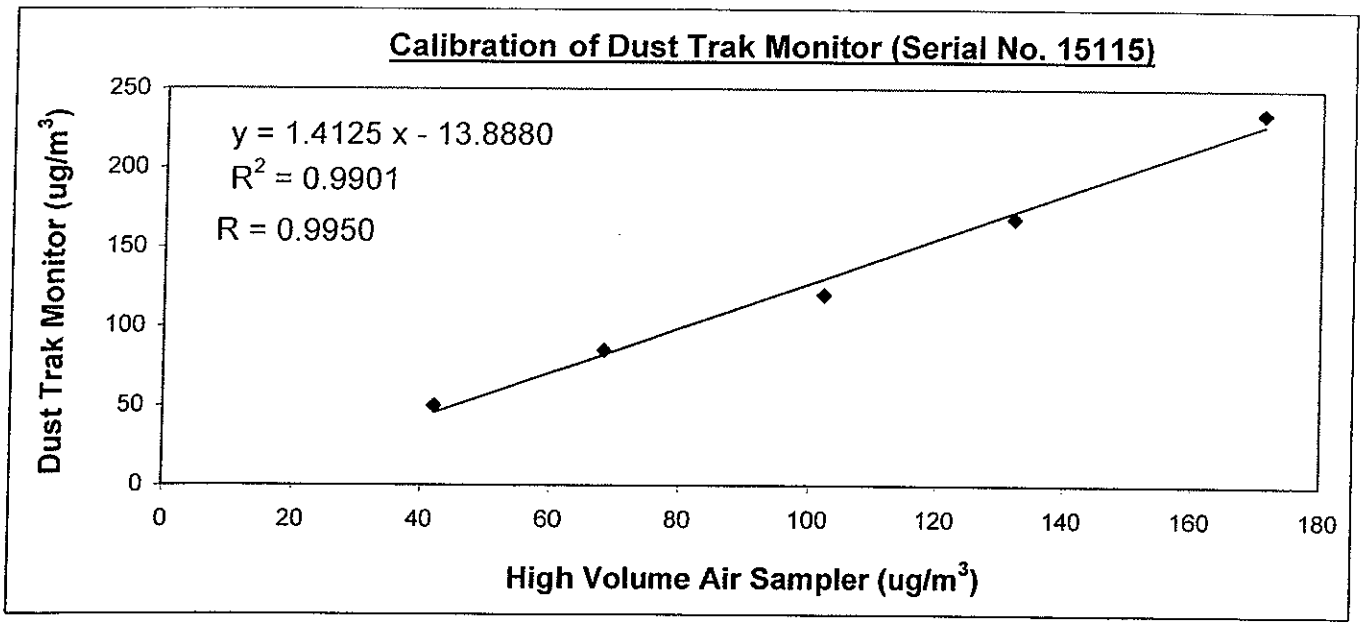
Serial No. : 15115 (ET/EA/001/02)

Calibration Due Date : 09 January 2010

Method : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Trak Monitor (ug/m^3)	50	85	120	168	235
High Volume Air Sampler (ug/m^3)	42	68	102	132	171
Serail No of High Volume Air Sampler : 1178		Calibration Due Date: 29 August 2009			



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 : _____
CHOW, Hoi Tat
(Assistant Environmental Officer)

Approved by : _____
LAW, Sau Yee
(Senior Environmental Officer)

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED
8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Internal Calibration Report of Dust Trak Monitor

Manufacturer : TSI - 8520 Dust Trak

Date of Calibration : 10 July 2009

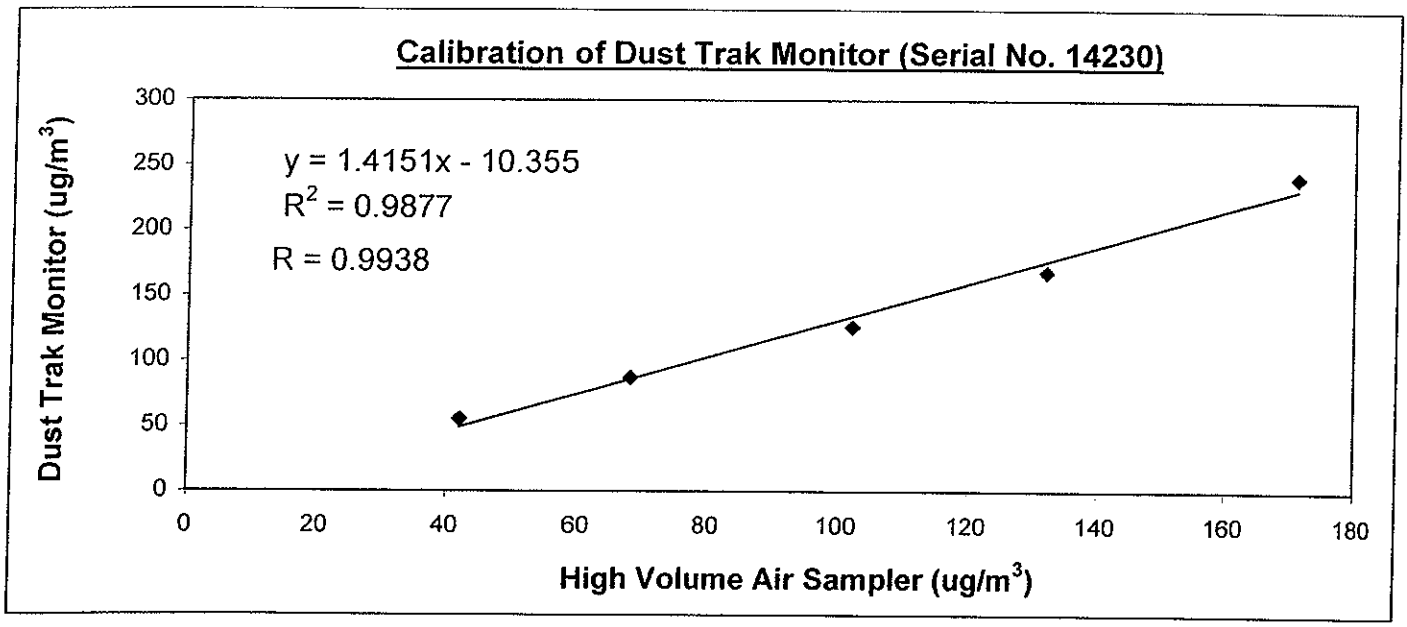
Serial No. : 14230 (ET/EA/001/04)

Due Date : 09 January 2010

Method : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Trak Monitor (ug/m^3)	55	87	126	168	241
High Volume Air Sampler (ug/m^3)	42	68	102	132	171
High Volume Air Sampler Serail No.: 1178		Calibration Due Date: 29 August 2009			



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 : CHOW, Hoi Tat (Assistant Environmental Officer)

Approved by : LAW, Sau Yee (Senior Environmental Officer)

TISCH ENVIROMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 18, 2009 Rootsmeter S/N 9833620 Ta (K) - 293
Operator Tisch Orifice I.D. - 1560 Pa (mm) - 765.81

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4310	3.2	2.00
2	NA	NA	1.00	1.0060	6.3	4.00
3	NA	NA	1.00	0.8990	7.9	5.00
4	NA	NA	1.00	0.8580	8.7	5.50
5	NA	NA	1.00	0.7070	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0205	0.7132	1.4317		0.9958	0.6959	0.8748
1.0164	1.0104	2.0247		0.9918	0.9859	1.2371
1.0142	1.1281	2.2637		0.9896	1.1008	1.3831
1.0132	1.1809	2.3742		0.9886	1.1522	1.4506
1.0078	1.4255	2.8633		0.9834	1.3909	1.7495
Qstd slope (m) =		2.01170		Qa slope (m) =		1.25969
intercept (b) =		-0.00455		intercept (b) =		-0.00278
coefficient (r) =		0.99998		coefficient (r) =		0.99998
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

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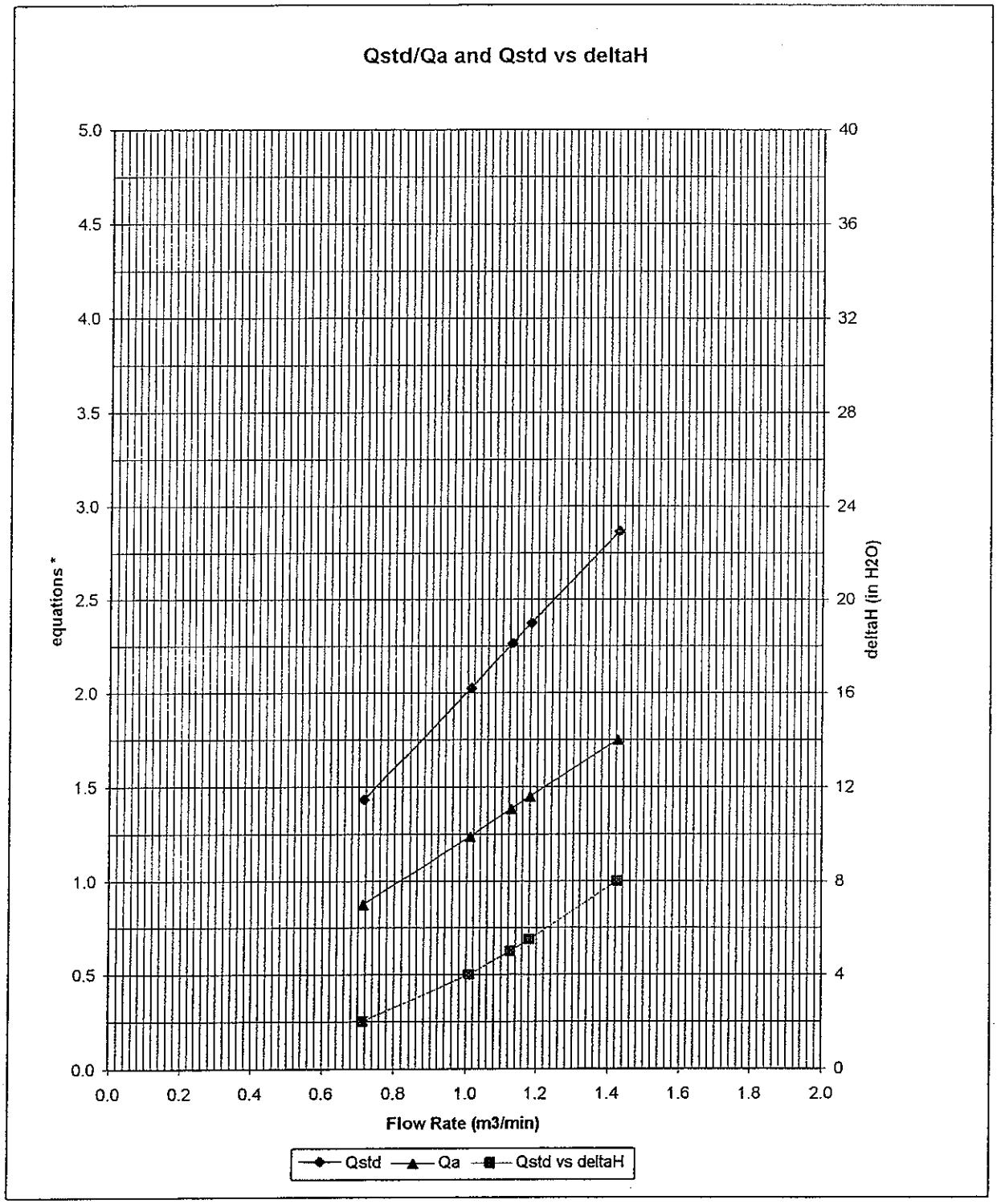
AIR POLLUTION MONITORING EQUIPMENT



* y-axis equations:

Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H\ (Ta\ /\ Pa))}$

1560

Appendix B2

Impact Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. ($\mu g/m^3$)	Weather Condition
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final		
06/07/09	18:00	07/07/09	18:00	14375.35	14399.35	24.00	1.0274	1.0274	1.0274	2.8012	2.8389	25	Sunny
10/07/09	12:00	11/07/09	12:00	14399.35	14423.35	24.00	1.0520	1.0520	1.0520	2.8174	2.8959	52	Sunny
16/07/09	14:00	17/07/09	14:00	14423.35	14474.35	24.00	1.0274	1.0274	1.0274	2.8325	2.8775	30	Sunny
22/07/09	13:03	23/07/09	13:03	14447.35	14471.35	24.00	1.0520	1.0520	1.0520	2.7914	2.8330	27	Fine
28/07/09	11:48	29/07/09	11:48	14471.35	17795.35	24.00	1.0274	1.0274	1.0274	2.8196	2.8800	41	Sunny

Monitoring Station : AM2

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. ($\mu g/m^3$)	Weather Condition
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final		
06/07/09	18:00	07/07/09	18:00	18411.24	18435.24	24.00	1.1816	1.1816	1.1816	2.7733	2.8214	28	Sunny
10/07/09	12:00	11/07/09	12:00	18435.24	18459.24	24.00	1.2113	1.2113	1.2113	2.8143	2.8984	48	Sunny
16/07/09	14:02	17/07/09	14:02	18459.24	18483.24	24.00	1.1816	1.1816	1.1816	2.7899	2.8432	31	Sunny
22/07/09	12:56	23/07/09	12:56	18483.24	18507.24	24.00	1.1816	1.1816	1.1816	2.8056	2.8553	29	Fine
28/07/09	11:56	29/07/09	11:56	18507.24	18531.24	24.00	1.1816	1.1816	1.1816	2.8203	2.8995	47	Sunny

Monitoring Station : AM3

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. ($\mu g/m^3$)	Weather Condition
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final		
06/07/09	11:06	07/07/09	11:06	2471.51	2495.51	24.00	1.0998	1.0998	1.0998	2.7908	2.8372	29	Sunny
10/07/09	16:00	11/07/09	16:00	2495.51	2519.51	24.00	0.9868	0.9868	0.9868	2.8036	2.9393	95	Sunny
16/07/09	11:29	17/07/09	11:29	2519.51	2543.51	24.00	1.0151	1.0151	1.0151	2.7844	2.8965	77	Sunny
22/07/09	14:27	23/07/09	14:27	2543.51	2567.51	24.00	1.0151	1.0151	1.0151	2.7819	2.8087	18	Fine
28/07/09	12:06	29/07/09	12:06	2567.51	2591.51	24.00	1.0151	1.0151	1.0151	2.7893	2.8582	47	Sunny

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM1

Date	Monitoring Period		1-hr TSP (μg/m³)			Weather
	Start	Finish	Minimum	Maximum	Average	
06/07/09	13:30	14:30	92	529	216	Sunny
06/07/09	14:30	15:30	73	453	201	Sunny
06/07/09	15:30	16:30	65	376	195	Sunny
10/07/09	09:15	10:15	92	413	118	Sunny
10/07/09	10:15	11:15	116	467	132	Sunny
10/07/09	11:15	12:15	83	384	125	Sunny
16/07/09	09:08	10:08	41	378	84	Fine
16/07/09	10:08	11:08	42	400	86	Fine
16/07/09	11:08	12:08	54	479	99	Fine
22/07/09	13:00	14:00	82	392	115	Sunny
22/07/09	14:00	15:00	90	361	135	Sunny
22/07/09	15:00	16:00	87	326	124	Sunny
28/07/09	09:20	10:20	72	369	104	Overcast
28/07/09	10:20	11:20	85	378	123	Overcast
28/07/09	13:05	14:05	94	422	134	Overcast

Monitoring Station : AM2

Date	Monitoring Period		1-hr TSP (μg/m³)			Weather
	Start	Finish	Minimum	Maximum	Average	
06/07/09	13:40	14:40	84	584	201	Sunny
06/07/09	14:40	15:40	79	519	187	Sunny
06/07/09	15:40	16:40	62	433	175	Sunny
10/07/09	09:18	10:18	98	409	117	Sunny
10/07/09	10:18	11:18	131	487	135	Sunny
10/07/09	11:18	12:18	86	376	123	Sunny
16/07/09	09:13	10:13	50	419	97	Fine
16/07/09	10:13	11:13	55	509	108	Fine
16/07/09	11:13	12:13	54	504	104	Fine
22/07/09	13:06	14:06	91	417	113	Sunny
22/07/09	14:06	15:06	95	395	127	Sunny
22/07/09	15:06	16:06	86	360	122	Sunny
28/07/09	09:30	10:30	82	385	104	Overcast
28/07/09	10:30	11:30	89	393	117	Overcast
28/07/09	13:12	14:12	99	463	129	Overcast

Summary of 1-hr TSP Monitoring Results

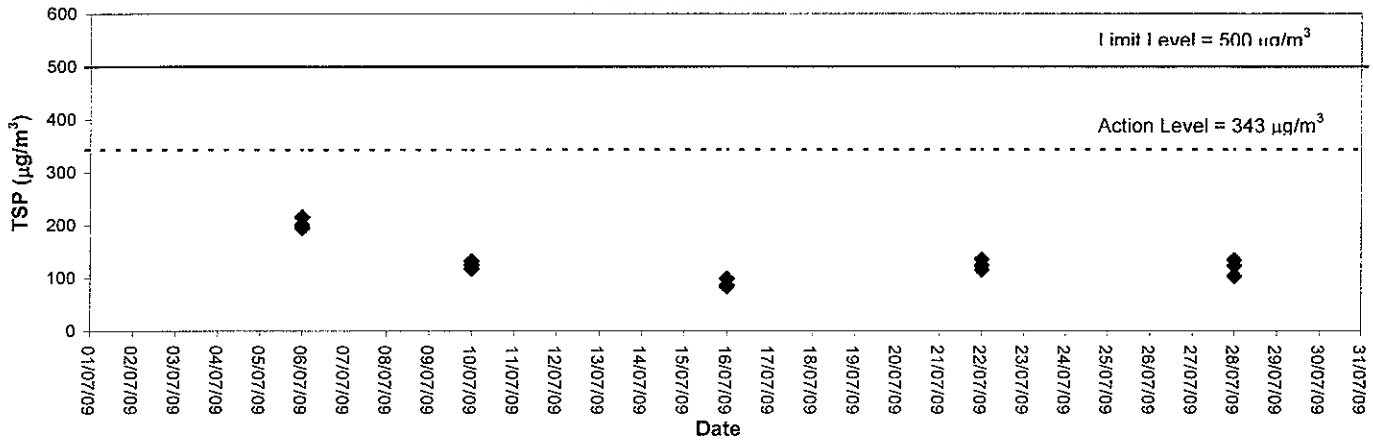
Monitoring Station : AM3

Date	Monitoring Period		1-hr TSP (μg/m³)			Weather
	Start	Finish	Minimum	Maximum	Average	
06/07/09	09:15	10:15	83	429	168	Sunny
06/07/09	10:15	11:15	94	561	199	Sunny
06/07/09	11:15	12:15	75	415	156	Sunny
10/07/09	13:00	14:00	87	406	119	Sunny
10/07/09	14:00	15:00	96	436	152	Sunny
10/07/09	15:00	16:00	106	421	138	Sunny
16/07/09	13:00	14:00	66	559	120	Fine
16/07/09	14:00	15:00	69	584	124	Fine
16/07/09	15:00	16:00	60	566	113	Fine
22/07/09	09:12	10:12	102	406	144	Sunny
22/07/09	10:12	11:12	89	382	139	Sunny
22/07/09	11:12	12:12	95	324	116	Sunny
28/07/09	14:38	15:38	96	504	155	Sunny
28/07/09	15:38	16:38	88	426	148	Sunny
28/07/09	16:38	17:38	103	415	130	Sunny

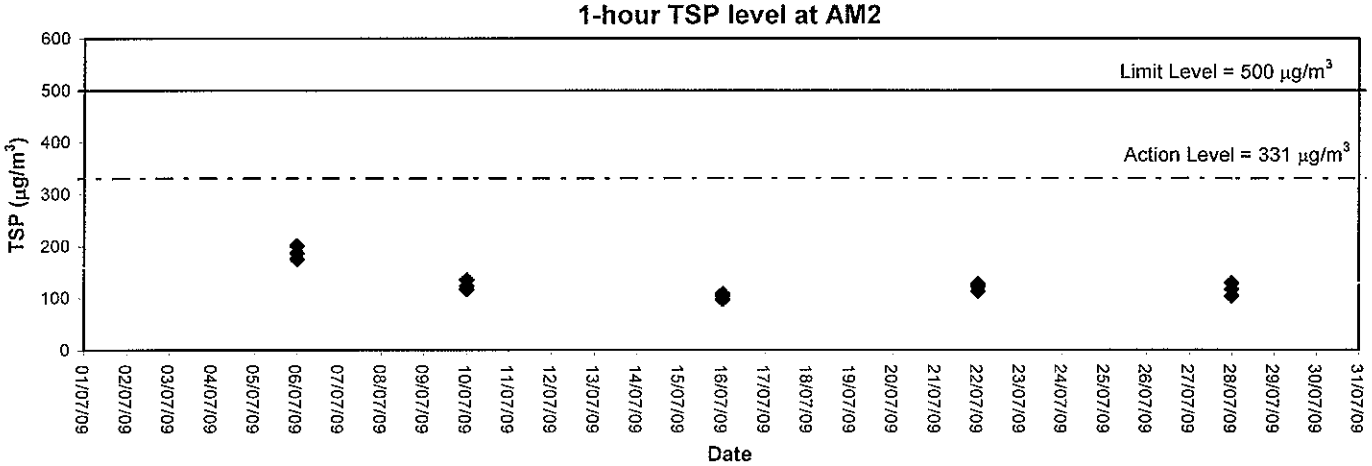
Appendix C3

Graphical Plots of Impact Air Quality Monitoring Data

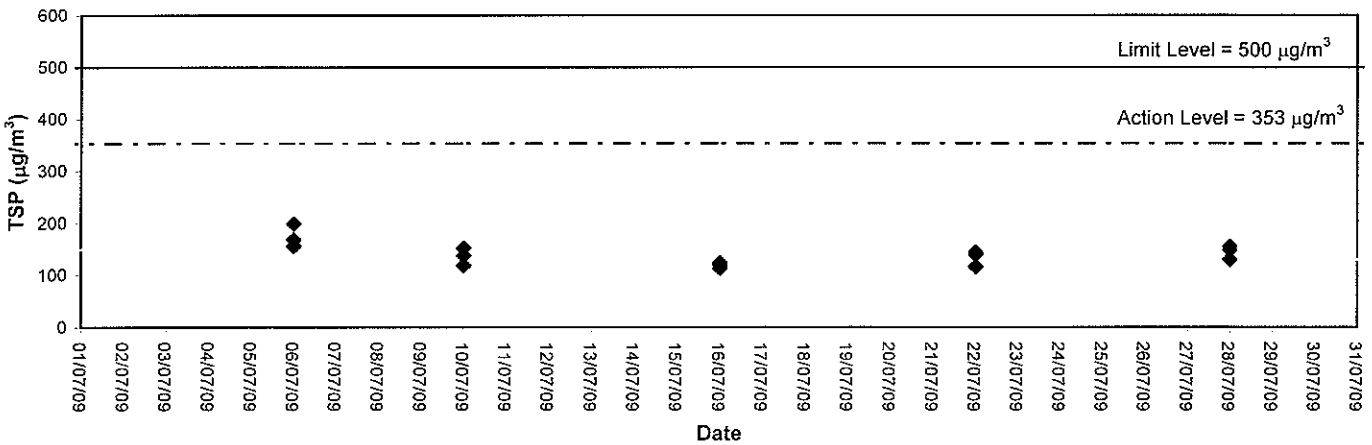
1-hour TSP level at AM1

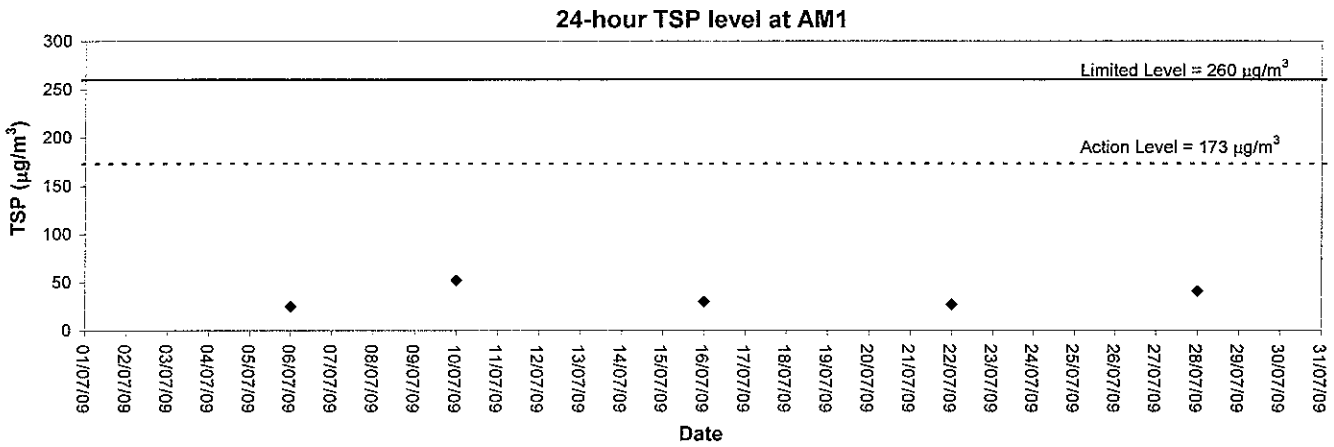


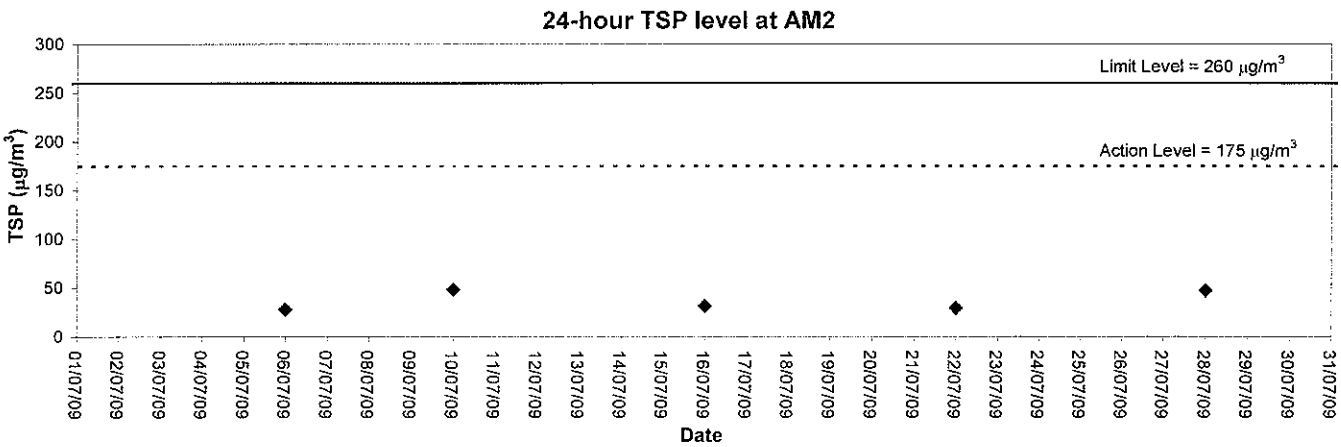
1-hour TSP level at AM2

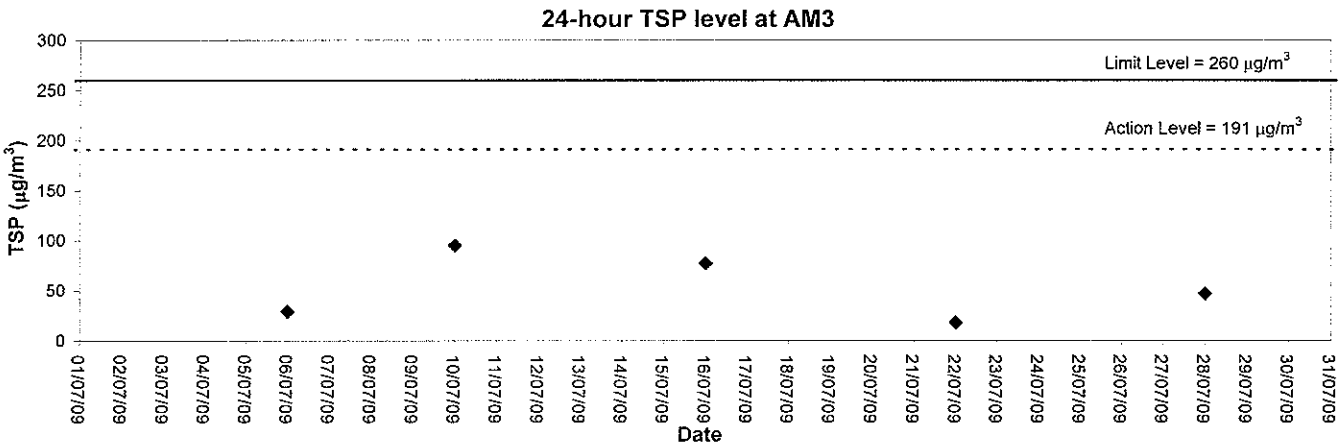


1-hour TSP level at AM3




24-hour TSP level at AM1
Limited Level = 260 μg/m3
Action Level = 173 μg/m3
TSP (μg/m3)
Date


24-hour TSP level at AM2
Limit Level = 260 μg/m3
Action Level = 175 μg/m3
TSP (μg/m3)
Date


24-hour TSP level at AM3
Limit Level = 260 μg/m3
Action Level = 191 μg/m3
TSP (μg/m3)
Date

Appendix C1

Calibration Certificates for

Impact Noise Monitoring Equipments

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 91495 Page 1 of 4 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q90663 **Date of receipt :** 1-Apr-09

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31 **Serial No. :** 00110024

Test Conditions

Date of Test : 15-Apr-09 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : Z01.

Test Results

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

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S017A	Multi-Function Generator	86228	11-Dec-09	SCL-HKSAR
S024	Sound Level Calibrator	82926	16-Jul-09	NIM-PRC & SCL-HKSAR

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

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

Calibrated by : P.F. Wong

Approved by : for Dorothy Cheuk

Date: 16-Apr-09

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 6B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

Calibration Certificate

Results :

1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 – 100	L_A	Fast	94.03	93.7
		Slow		93.7
	L_C	Fast		93.7
	Lp	Fast		93.7
30 – 120	L_A	Fast	94.03	93.6
		Slow		93.6
	L_C	Fast		93.6
	Lp	Fast		93.6
30 – 120	L_A	Fast	113.97	113.6
		Slow		113.6
	L_C	Fast		113.6
	Lp	Fast		113.6

IEC Type 1 Spec. : ± 0.7 dB
Uncertainty : ± 0.1 dB

2. **Level Stability** : 0.0 dB
IEC 651 Type 1 Spec. : ± 0.3 dB
Uncertainty : ± 0.01 dB

Calibration Certificate

3. Linearity

3.1 Level Linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec. (Primary Indicator Range)
130	114.0	113.8	+0.2	± 0.7 dB
130	104.0	103.7	+0.1	
120	94.0	93.6 (Ref.)	- -	
110	84.0	83.6	0.0	
100	74.0	73.6	0.0	
90	64.0	63.7	+0.1	
80	54.0	53.8	+0.2	

Uncertainty : ± 0.1 dB

3.2 Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	83.7	+0.1	± 0.4 dB
	94.0	93.6 (Ref.)	- -	
	95.0	94.7	+0.1	± 0.2 dB
	104.0	103.6	0.0	± 0.3 dB
	105.0	104.6	0.0	± 1.0 dB

Uncertainty : ± 0.1 dB

4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-39.8	- 39.4 dB, ± 1.5 dB
63 Hz	-26.5	- 26.2 dB, ± 1.5 dB
125 Hz	-16.5	- 16.1 dB, ± 1 dB
250 Hz	-8.9	- 8.6 dB, ± 1 dB
500 Hz	-3.4	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+1.5	+ 1.2 dB, ± 1 dB
4 kHz	+1.4	+ 1.0 dB ,± 1 dB
8 kHz	-0.8	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	-6.4	- 6.6 dB, + 3 dB ~- ∞

Uncertainty : ± 0.1 dB

Calibration Certificate

5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	40.0	--
1/10	40.0	39.8	± 0.5 dB
$1/10^2$	40.0	39.8	
$1/10^3$	40.0	40.0	± 1.0 dB
$1/10^4$	40.0	40.3	

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. Atmospheric Pressure : 1 002 hPa.

---------- END ----------

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 91496 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. : Q90663 **Date of receipt :** 1-Apr-09

Item Tested

Description : Acoustic Calibrator

Manufacturer : Castle

Model : GA607 **Serial No.** : 038641

Test Conditions

Date of Test : 15-Apr-09 **Supply Voltage** : --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : F06, F20, Z02.

Test Results

All results were within the IEC 942 Class 1 specification.

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S014	Spectrum Analyzer	83240	30-Jun-09	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	82926	16-Jul-09	NIM-PRC & SCL-HKSAR
S041	Universal Counter	84077	22-Aug-09	SCL-HKSAR
S206	Sound Level Meter	83964	13-Aug-09	SCL-HKSAR

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

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

Calibrated by : P.F. Wong

Approved by : Dorothy Cheuk

Date: 16-Apr-09

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 6B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

Calibration Certificate

Results :

1. Level Accuracy (at 1 kHz)

UUT Setting (dB)	Measured Value (dB)	IEC 942 Class 1 Spec.
94	93.92	± 0.3 dB

Uncertainty : ± 0.1 dB

2. Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	IEC 942 Class 1 Spec.
1	1.001	± 2 %

Uncertainty : $\pm 3.6 \times 10^{-6}$

3. Level Stability : 0.0 dB
IEC 942 Class 1 Spec. : ± 0.1 dB
Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 2.8 %
IEC 942 Class 1 Spec. : < 3 %
Uncertainty : ± 2.3 % of rdg.

Remark : 1. UUT : Unit-Under-Test
2. The above measured values are the mean of 3 measurements.
3. The uncertainty claimed is for a confidence probability of not less than 95%.
4. Atmospheric Pressure : 1 002 hPa

---------- END ----------

Appendix C2

Impact Noise Monitoring Results

Day-time Noise Monitoring

Monitoring Station: NM1

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
06/07/09	Sunny	13:52	14:22	69.4	74.0	66.8	1.4
16/07/09	Fine	09:15	09:45	55.6	58.4	51.8	1.8
22/07/09	Sunny	15:09	15:39	75.0	78.1	67.2	0.4
28/07/09	Overcast	09:40	10:10	71.2	76.4	67.5	0.6

Monitoring Station: NM2

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
06/07/09	Sunny	15:30	16:00	72.5	76.1	67.9	0.6
16/07/09	Fine	10:00	10:30	65.9	73.1	62.5	1.1
22/07/09	Sunny	13:45	14:15	66.2	69.5	62.6	0.6
28/07/09	Overcast	10:20	10:50	67.9	70.0	65.3	0.9

Monitoring Station: RNM3

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
06/07/09	Sunny	10:05	10:35	65.3	69.2	62.4	0.9
16/07/09	Fine	10:43	11:13	66.8	72.5	63.6	1.4
22/07/09	Sunny	14:30	15:00	64.2	66.1	60.7	0.5
28/07/09	Sunny	13:50	14:20	63.8	65.9	60.9	1.2

Remark: 3dB(A) correction had been added to the results since noise measurements at RNM3 were free-field.

Monitoring Station: NM4

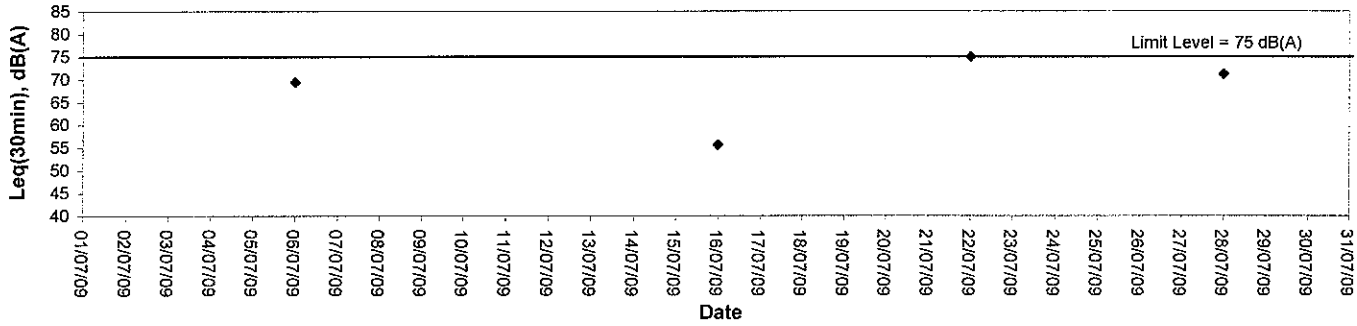
Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
06/07/09	Sunny	09:25	09:55	60.4	65.5	57.0	1.3
16/07/09	Fine	11:25	11:55	54.8	57.1	51.2	1.9
22/07/09	Sunny	15:55	16:25	59.2	62.2	54.6	0.5
28/07/09	Sunny	14:45	15:15	58.7	62.2	56.4	1.7

Appendix C3

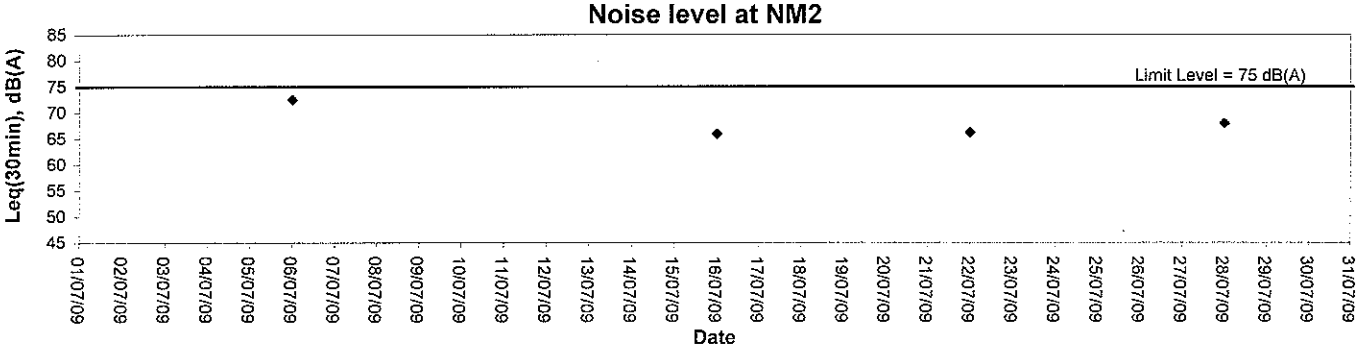
Graphical Plots of Impact Noise Monitoring Data

Noise Monitoring (Day-time)

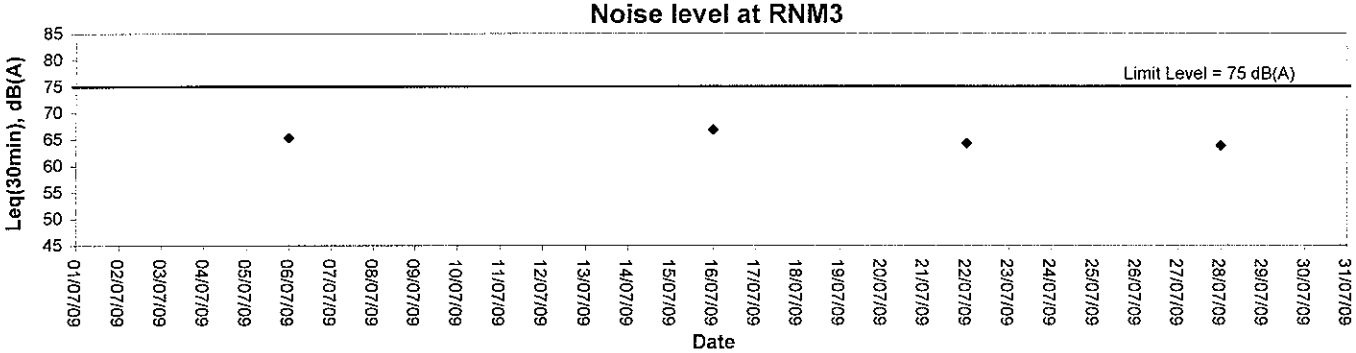
Noise level at NM1



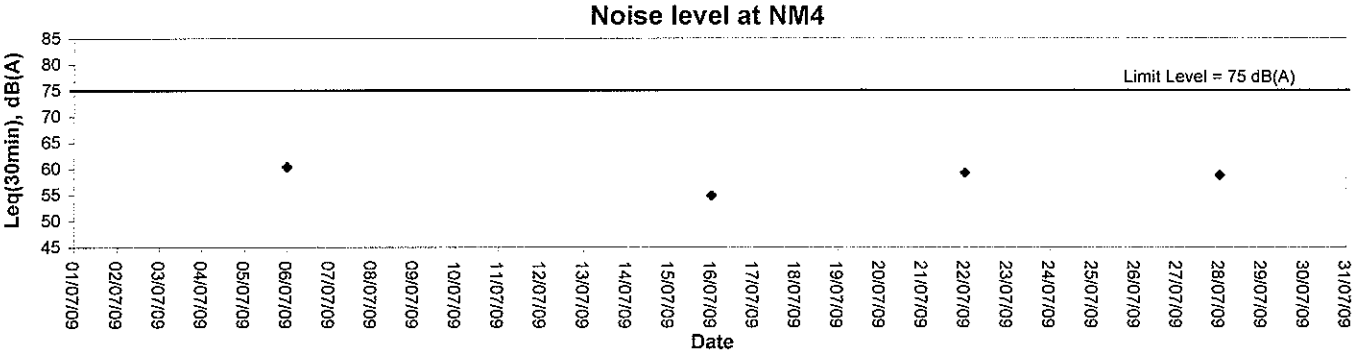
Noise level at NM2



Noise level at RNM3



Noise level at NM4



Appendix D

Event-Action Plans

Event / Action Plan for Air Quality

EVENT	ACTION			
	ET	IC(E)	ER	CONTRACTOR
Action Level				
Action Level being exceeded for one sample	1. Identify source, investigate the causes of Exceedance and propose remedial measures; 2. Inform IC(E) and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Action Level being exceeded for two or more consecutive samples	1. Same as the above; 2. Advise the ER on the effectiveness of te proposed remedial measures; 3. Discuss with IC(E) and Contractor on remedial actions required; 4. If exceedance continues, arrange meeting with IC(E) and ER; 5. If exceedance stops, cease additional monitoring.	1. Sane as the above; 2. Discuss with ET and Contractor on possible remedial measures; 3. Advise the ET on the effectiveness of the proposed remedial measures; 4. Supervise implementation of remedial measures.	1. Same as the above; 2. Confirm receipt of notification of failure in writing; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
Limit Level being exceeded for one sample	1. Identify source; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results.	1. Checking monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on the possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial actions properly implemented.	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. Amend proposal if appropriate.
Limit Level being exceeded for two or more consecutive samples	1. Same as the above; 2. Carry our analysis of Contractor's working procedures to determine possible mitigation to be implemented; 3. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken; 4. If exceedance stops, cease additional monitoring.	1. Discuss with ER, ET and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assume their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Same as the above; 2. In consolidation with the IC(E), agree with the Contractor on the remedial measures to be implemented; 3. 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.	1. Same as the above; 2. Resubmit proposals if problem still not under control; 3. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

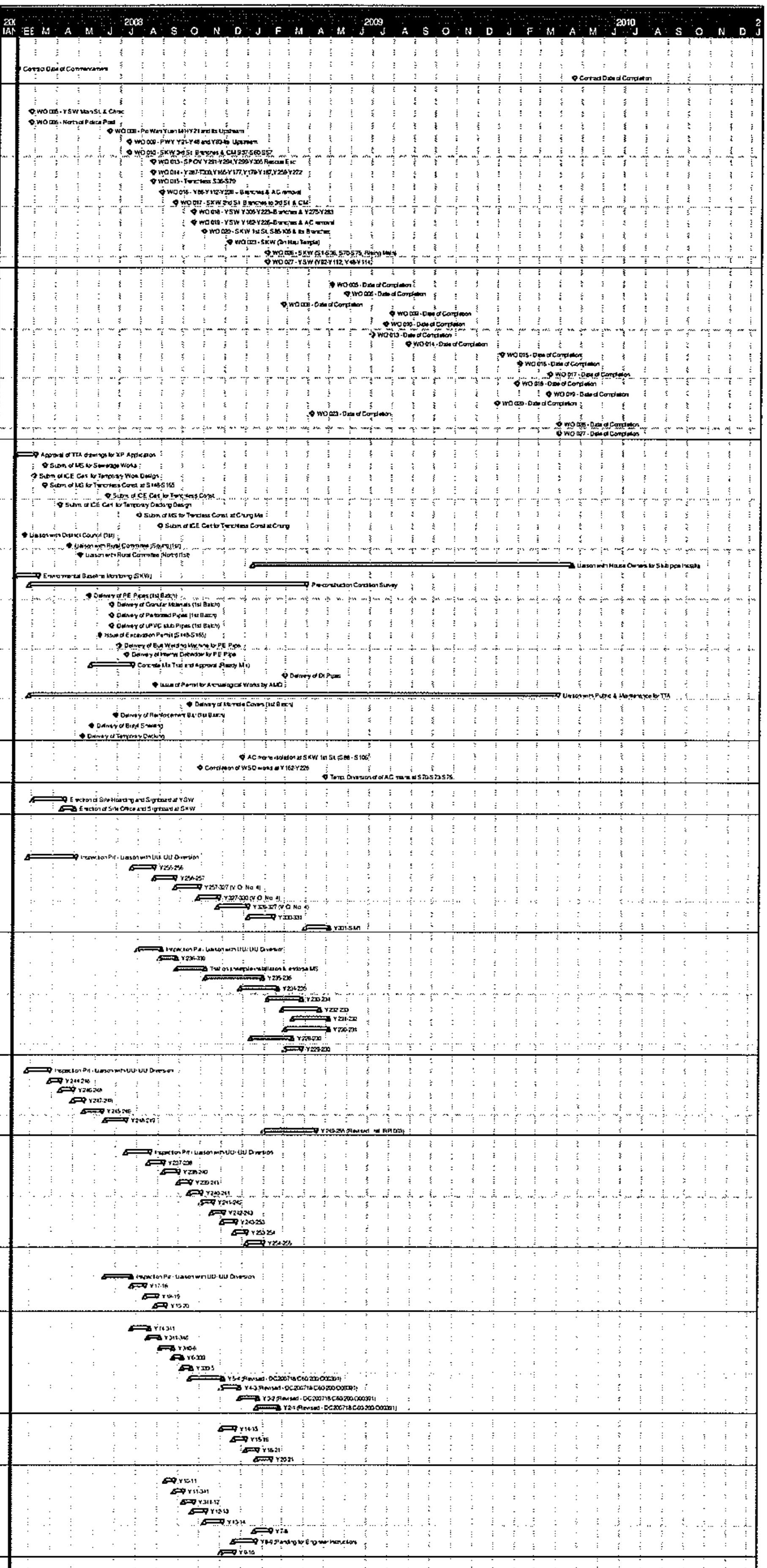
Event / Action Plan for Construction Noise

EVENT	ACTION			
	ET	IC(E)	ER	CONTRACTOR
Action level	1. Notify IC(E) and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IC(E), ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures ; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review and investigation 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.	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 proper implementation of remedial measures.	1. Submit noise mitigation proposal to IC(E); 2. Implement noise mitigation proposals.
Limit level	1. Identify source; 2. Inform IC(E), ER, EPD and Contractor; 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 and actions taken for the exceedances; 7. Assess the effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions to ensure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Same as above; 2. If exceedances continue, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E); 3. Implement the agreed proposals; 4. Resubmit proposals if problem still out of control; 5. Stop the relevant portion of works as determined by ER, until the exceedance is abated.

Appendix E

Construction Programme

Act ID	Activity Description	Orig Dur	Total Float	Early Start	Late Start	Early Finish	Late Finish
Preliminary							
Project Key Date							
KD1000	Contract Date of Commencement	0		31 JAN 08 A	31 JAN 08 A		
KD1040	Contract Date of Completion	0	0			19 APR 10	19 APR 10
Works Order							
Commencement of Works Order							
KD1050	WO 005 - YSW Main St & Clinic	0	15d	25 FEB 08 *	12 MAR 08		
KD1060	WO 006 - Northal Police Post	0	5d	25 FEB 08 *	01 MAR 08		
KD1070	WO 008 - Po Wan Yuen MH Y21 and its Upstream	0	0	16 JUN 08 *	16 JUN 08		
KD1080	WO 009 - PWY Y21-Y48 and Y83-its Upstream	0	10d	15 JUL 08 *	25 JUL 08		
KD1090	WO 010 - SKW 3rd St Branches & CM	0	7d	15 JUL 08 *	22 JUL 08		
KD1100	WO 013 - SPOV Y291-Y294,Y299-Y305 Rescue	0	42d	18 AUG 08 *	16 OCT 08		
KD1110	WO 014 -	0	0	18 AUG 08 *	18 AUG 08		
KD1120	WO 015 - Trenchless S36-S70	0	10d	18 AUG 08 *	01 SEP 08		
KD1130	WO 016 - Y86-Y112-Y228 - Branches & AC removal	0	0	01 SEP 08 *	01 SEP 08		
KD1140	WO 017 - SKW 2nd St Branches to 3rd St & CM	0	61d	20 SEP 08 *	03 DEC 08		
KD1150	WO 018 - YSW Y306-Y223-Branches & Y275-Y283	0	18d	16 OCT 08 *	05 NOV 08		
KD1160	WO 019 - YSW Y162-Y226-Branches & AC removal	0	0	16 OCT 08 *	16 OCT 08		
KD1170	WO 020 - SKW 1st St S86-105 & its Branches	0	51d	01 NOV 08 *	31 DEC 08		
KD1180	WO 023 - SKW (Tin Hau Temple)	0	0	08 DEC 08 *	08 DEC 08		
KD1190	WO 026 - SKW (S1-S36, S70-S75, Rising Main)	0	366d	02 FEB 09 *	20 APR 10		
KD1200	WO 027 - YSW (Y82-Y112, Y45-Y114)	0	365d	02 FEB 09 *	20 APR 10		
Completion of Works Order							
KD1051	WO 005 - Date of Completion	0	0			06 MAY 09	06 MAY 09 *
KD1061	WO 006 - Date of Completion	0	0			26 MAY 09	26 MAY 09 *
KD1071	WO 008 - Date of Completion	0	1d			23 FEB 09	23 FEB 09 *
KD1081	WO 009 - Date of Completion	0	10d			31 JUL 09	11 AUG 09 *
KD1091	WO 010 - Date of Completion	0	7d			23 JUL 09	30 JUL 09 *
KD1101	WO 013 - Date of Completion	0	42d			02 JUL 09	20 AUG 09 *
KD1111	WO 014 - Date of Completion	0	34d			25 AUG 09	06 OCT 09 *
KD1121	WO 015 - Date of Completion	0	4d			07 JAN 10	12 JAN 10 *
KD1131	WO 016 - Date of Completion	0	0			03 FEB 10	03 FEB 10 *
KD1141	WO 017 - Date of Completion	0	2d			17 MAR 10	19 MAR 10 *
KD1151	WO 018 - Date of Completion	0	21d			26 JAN 10	19 FEB 10 *
KD1161	WO 019 - Date of Completion	0	0			15 MAR 10	15 MAR 10 *
KD1171	WO 020 - Date of Completion	0	0			31 DEC 09	31 DEC 09 *
KD1181	WO 023 - Date of Completion	0	0			07 APR 09	07 APR 09 *
KD1191	WO 026 - Date of Completion	0	0			31 MAR 10	31 MAR 10 *
KD1201	WO 027 - Date of Completion	0	0			31 MAR 10	31 MAR 10 *
General and Preparation							
G1010	Approval of TTA drawings for XP Application	30	608d	31 JAN 08	16 MAR 10	05 MAR 08	19 APR 10
G1020	Subm. of MS for Sewerage Works	0	125d	19 MAR 08 *	26 SEP 08		
G1030	Subm. of ICE Cert for Temporary Work Design	0	139d	03 MAR 08 *	26 SEP 08		
G1040	Subm. of MS for Trenchless Const. at S148-S165	0	100d	18 MAR 08 *	18 AUG 08		
G1050	Subm. of ICE Cert for Trenchless Const	0	35d	16 JUN 08 *	18 AUG 08		
G1060	Subm. of ICE Cert for Temporary Decking Design	0	106d	30 APR 08 *	26 SEP 08		
G1070	Subm. of MS for Trenchless Const. at Chung Mei	0	19d	01 AUG 08 *	01 SEP 08		
G1080	Subm. of ICE Cert for Trenchless Const at Chung	0	0	01 SEP 08 *	01 SEP 08		
G1090	Liaison with District Council (1st)	0		20 FEB 08 A	20 FEB 08 A		
G1100	Liaison with Rural Committee (South) (1st)	0		23 APR 08 A	23 APR 08 A		
G1110	Liaison with Rural Committee (North) (1st)	0		08 MAY 08 A	08 MAY 08 A		
G1120	Liaison with House Owners for Stub pipe installa	1	0	13 JAN 09	13 JAN 09 *	18 APR 10 *	19 APR 10
G1200	Environmental Baseline Monitoring (SKW)	34	64d	31 JAN 08	15 APR 08	10 MAR 08	26 MAY 08 *
G1210	Preconstruction Condition Survey	300	175d	25 FEB 08 *	31 OCT 08	31 MAR 09	02 NOV 09 *
G1240	Delivery of PE Pipes (1st Batch)	0				21 MAY 08 A	21 MAY 08 A
G1250	Delivery of Granular Materials (1st Batch)	0	56d	23 JUN 08 *	26 SEP 08		
G1260	Delivery of Perforated Pipes (1st Batch)	0	16d	23 JUN 08 *	25 JUL 08		
G1270	Delivery of uPVC stub Pipes (1st Batch)	0	56d	23 JUN 08 *	26 SEP 08		
G1280	Issue of Excavation Permit (S148-S165)	0		06 JUN 08 A	06 JUN 08 A		
G1300	Delivery of Butt Welding Machine for PE Pipe	0		04 JUL 08 A	04 JUL 08 A		
G1310	Delivery of Internal Detector for PE Pipe	0	0	14 JUL 08 *	14 JUL 08		
G1320	Concrete Mix Trial and Approval (Ready Mix)	0	42d	24 MAY 08 *	14 AUG 08	22 JUL 08	25 SEP 08
G1330	Delivery of DI Pipes	0	245d	02 MAR 09 *	28 DEC 09		
G1340	Issue of Permit for Archaeological Works by AMO	0		25 AUG 08 A	25 AUG 08 A		
G1350	Liaison with Public & Maintenance for TTA	1	17d	25 FEB 08 *	14 MAR 08	31 MAR 10	19 APR 10
G1360	Delivery of Manhole Covers (1st Batch)	0		14 OCT 08 A	14 OCT 08 A		
G1370	Delivery of Reinforcement Bar (1st Batch)	0		30 JUN 08 A	30 JUN 08 A		
G1390	Delivery of Butyl Sheeting	0		26 MAY 08 A	26 MAY 08 A		
G1410	Delivery of Temporary Decking	0		12 MAY 08 A	12 MAY 08 A		
Works by Utilities Undertakers							
G1290	AC main isolation at SKW 1st St (S86 - S100)	0	0	31 DEC 08 *	31 DEC 08		
G1420	Completion of WSD works at Y162-Y226	0	0	31 OCT 08 *	31 OCT 08		
G1430	Temp. Diversion of of AC main at S70-S73-S75	0	127d	30 APR 09 *	21 SEP 09		
Site Works at Works Area W1A/W1B/W2A/W2B							
G1380	Erection of Site Hoarding and Signboard at YSW	46	12d	03 MAR 08 *	17 MAR 08	17 APR 08	01 MAY 08 *
G1400	Erection of Site Office and Signboard at SKW	15	0	15 APR 08 *	15 APR 08	01 MAY 08	01 MAY 08 *
YUNG SHUE WAN							
WO 005 (Yung Shue Wan Main Street & Clinic)							
Y255-Y258-Y327-Y331-Existing MH							
MS1119	Inspection Pit - Liaison with UU - UU Diversion	58	14d	25 FEB 08	12 MAR 08	02 MAY 08	19 MAY 08
MS1120	Y256-256	21	42d	23 JUL 08	25 SEP 08	25 AUG 08	20 OCT 08
MS1130	Y256-257	26	42d	25 AUG 08	21 OCT 08	25 SEP 08	12 NOV 08
MS1140	Y257-327 (V.O. No. 4)	28	42d	25 SEP 08	13 NOV 08	28 OCT 08	15 DEC 08
MS1150	Y327-330 (V.O. No. 4)	25	42d	28 OCT 08	16 DEC 08	26 NOV 08	14 JAN 09
MS1160	Y326-327 (V.O. No. 4)	36	42d	26 NOV 08	15 JAN 09	08 JAN 09	26 FEB 09
MS1190	Y330-331	27	42d	08 JAN 09	02 MAR 09	12 FEB 09	01 APR 09
MS1220	Y331-SMH	21	0	02 APR 09	02 APR 09	06 MAY 09	06 MAY 09
Y228-Y236-Y330							
MS1229	Inspection Pit - Liaison with UU - UU Diversion	21	0	01 AUG 08 *	01 AUG 08	01 SEP 08	01 SEP 08
MS1230	Y236-330	14	0	04 SEP 08	04 SEP 08	26 SEP 08	26 SEP 08
MS1235	Trial on sheetpile installation & endorse MS	36	0	27 SEP 08	27 SEP 08	06 NOV 08	06 NOV 08
MS1240	Y235-236	66	0	07 NOV 08	07 NOV 08	29 JAN 09	29 JAN 09
MS1250	Y234-235	43	0	29 DEC 08	29 DEC 08	20 FEB 09	20 FEB 09
MS1260	Y233-234	43	0	05 FEB 09	05 FEB 09	26 MAR 09	26 MAR 09
MS1270	Y232-233	43	0	27 FEB 09	27 FEB 09	22 APR 09	22 APR 09
MS1280	Y231-232	42	0	14 MAR 09	14 MAR 09	06 MAY 09	06 MAY 09
MS1290	Y230-231	50	0	03 MAR 09	03 MAR 09	06 MAY 09	06 MAY 09
MS1300	Y228-230	56	0	12 JAN 09 *	12 JAN 09	13 MAR 09	13 MAR 09
MS1310	Y229-230	21	29d	03 MAR 09	02 APR 09	26 MAR 09	06 MAY 09
Y244-Y255							
MS1319	Inspection Pit - Liaison with UU - UU Diversion	29	14d	26 FEB 08	12 MAR 08	28 MAR 08	14 APR 08
MS1320	Y244-246	14	14d	29 MAR 08	14 APR 08	14 APR 08	30 APR 08
MS1330	Y246-248	14	14d	15 APR 08	30 APR 08	30 APR 08	16 MAY 08
MS1340	Y247-248	14	14d	01 MAY 08	16 MAY 08	16 MAY 08	12 JUN 08
MS1350	Y245-246	14	14d	17 MAY 08	12 JUN 08	12 JUN 08	17 JUL 08
MS1360	Y248-249	14	14d	16 JUN 08	17 JUL 08	17 JUL 08	02 AUG 08
MS1370	Y249-256 (Revised, ref RR 002)	62	14d	31 JAN 09	17 FEB 09	14 APR 09	06 MAY 09
Y237-Y240; Y239-Y255							
SO3160	Inspection Pit - Liaison with UU - UU Diversion	22	14d	18 JUL 08 *	04 AUG 08	19 AUG 08	05 SEP 08
SO3170	Y237-236	14	14d	19 AUG 08	05 SEP 08	05 SEP 08	30 SEP 08
SO3180	Y238-240	14	14d	10 SEP 08	01 OCT 08	01 OCT 08	16 OCT 08
SO3330	Y239-241	14	14d	01 OCT 08	17 OCT 08	17 OCT 08	01 NOV 08
SO3340	Y240-241	14	14d	17 OCT 08	03 NOV 08	03 NOV 08	18 NOV 08
SO3350	Y241-242	14	14d	03 NOV 08	19 NOV 08	19 NOV 08	04 DEC 08
SO3360	Y242-243	14	14d	19 NOV 08	05 DEC 08	05 DEC 08	20 DEC 08
SO3370	Y243-253	14	14d	05 DEC 08	22 DEC 08	22 DEC 08	07 JAN 09
SO3380	Y253-254	14	14d	22 DEC 08	08 JAN 09	08 JAN 09	23 JAN 09
SO3390	Y254-255	17	14d	08 JAN 09	21 JAN 09	31 JAN 09	16 FEB 09
WO 008 (PWY M/H Y21&its Upstream)							
Y1-Y21							
PW2159	Inspection Pit - Liaison with UU - UU Diversion	20	6	16 JUN 08	16 JUN 08	24 JUL 08	24 JUL 08
PW2290	Y17-18	12	9d	25 JUL 08	05 AUG 08	14 AUG 08	26 AUG 08
PW2290	Y18-19	12	9d	14 AUG 08	27 AUG 08	30 AUG 08	12 SEP 08
PW2300	Y19-20	10	9d	30 AUG 08	12 SEP 08	12 SEP 08	25 SEP 08
Y14-Y1							
PW2160	Y14-341	16	0	25 JUL 08	25 JUL 08	19 AUG 08	19 AUG 08
PW2170	Y341-340	11	0	19 AUG 08	19 AUG 08	04 SEP 08	04 SEP 08
PW2180	Y340-6	12	0	05 SEP 08	05 SEP 08	25 SEP 08	25 SEP 08
PW2190	Y6-305	11	0	25 SEP 08	25 SEP 08	08 OCT 08	08 OCT 08
PW2200	Y305-5	10	0	08 OCT 08	08 OCT 08	20 OCT 08	20 OCT 08
PW2210	Y5-4 (Revised - DC2007/18/C60/200/000091)	40	0	20 OCT 08	20 OCT 08	05 DEC 08	05 DEC 08
PW2220	Y4-3 (Revised - DC2007/18/C60/200/000091)	21	0	05 DEC 08	05 DEC 08	30 DEC 08	30 DEC 08
PW2230	Y3-2 (Revised - DC2007/18/C60/200/000091)	21	0	30 DEC 08	30 DEC 08	24 JAN 09	24 JAN 09
PW2240	Y2-1 (Revised - DC2007/18/C60/200/000091)	22	0 *	24 JAN 09	21 JAN 09	23 FEB 09	23 FEB 09
Y14-Y21							
PW2250	Y14-15	14	9d	05 DEC 08	16 DEC 08	22 DEC 08	31 DEC 08
PW2260	Y15-16	14	9d	22 DEC 08	02 JAN 09	08 JAN 09	17 JAN 09
PW2270	Y16-21	14	9d	08 JAN 09	17 JAN 09	24 JAN 09	06 FEB 09
PW2280	Y20-21	14	9d	24 JAN 09	07 FEB 09	10 FEB 09	23 FEB 09
Y11-Y14 / Y11-Y7							
PW2310	Y10-11	7	9d	15 SEP 08	30 SEP 08	27 SEP 08	07 OCT 08
PW2325	Y11-341	11	9d	27 SEP 08	08 OCT 08	10 OCT 08	20 OCT 08
PW2330	Y341-12	12	9d	10 OCT 08	21 OCT 08	24 OCT 08	03 NOV 08
PW2340	Y12-13	14	9d	24 OCT 08	04 NOV 08	10 NOV 08	19 NOV 08
PW2350	Y13-14	27	9d	10 NOV 08	20 NOV 08	05 DEC 08	15 DEC 08
PW2360	Y7-8	16	9d	22 JAN 09	05 FEB 09	10 FEB 09	20 FEB 09
PW2370	Y6-5 (Pending for Engineer instructions)	26	9d	22 DEC 08	02 JAN 09	22 JAN 09	04 FEB 09
PW2380	Y9-10	14	9d	05 DEC 08	16 DEC 08	22 DEC 08	31 DEC 08
WO 009 (PWY Y21-Y48 & Y83&its Upstream)							
Y22-Y33							
PW2409	Inspection Pit - Liaison with UU - UU Diversion	21	10d	22 SEP 08 *	06 OCT 08	15 OCT 08	29 OCT 08
PW2410	Y22-23	7	10d	18 OCT 08	30 OCT 08	27 OCT 08	06 NOV 08
PW2420	Y23-345	14	10d	27 OCT 08	07 NOV 08	12 NOV 08	22 NOV 08
PW2430	Y345-27	10	10d	12 NOV 08	24 NOV 08	24 NOV 08	04 DEC 08
PW2440	Y24-25	12	10d	24 NOV 08	05 DEC 08	08 DEC 08	18 DEC 08
PW2450	Y25-344	12	10d	08 DEC 08	19 DEC 08	22 DEC 08	02 JAN 09



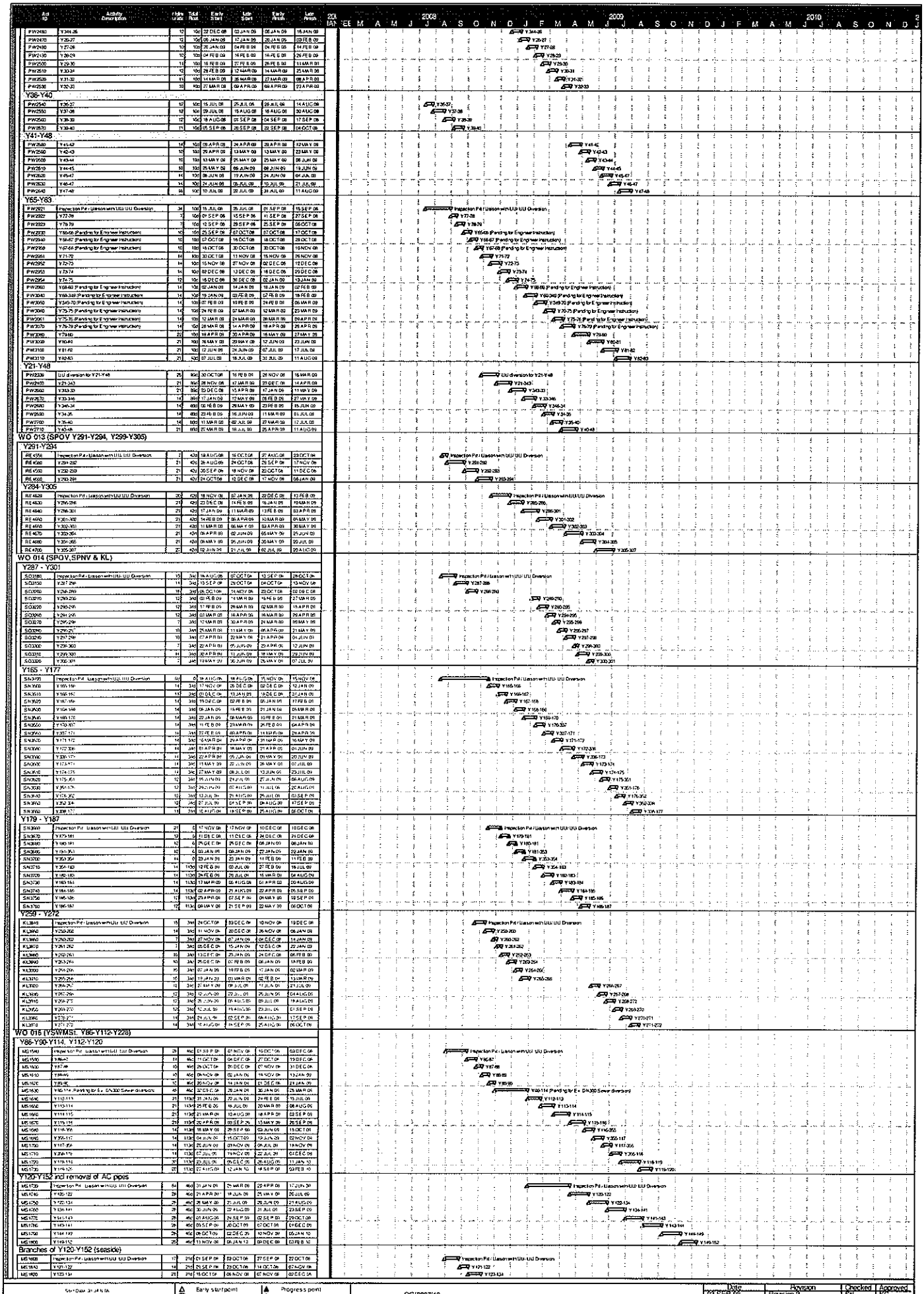
Start Date 31 JAN 08
Finish Date 19 APR 10

Page 1A

△	Early start point	▲	Progress point
▽	Early finish point	△	Critical point
	Early bar	▽	Summary point
	Progress bar	◇	Start milestone point
	Critical bar	◇	Finish milestone point
	Summary bar		

DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works
Project Programme Rev. 6

Date	Revision	Checked	Approved
03 SEP 08	Revision 3	SIL	KC
31 OCT 08	Revision 4	SIL	KYS
24 DEC 08	Revision 5	SIL	KYS
06 JUN 09	Revision 6	SIL	WTH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Activity Description
Orig Dur
Total Float
Early Start
Late Start
Early Finish
Late Finish
2008
2009
2010
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PW2470 Y26-27 10 100 05 JAN 09 19 JAN 09 19 JAN 09 30 JAN 09
PW2490 Y27-28 10 100 20 JAN 09 04 FEB 09 04 FEB 09 14 FEB 09
PW2130 Y28-29 10 100 04 FEB 09 16 FEB 09 16 FEB 09 26 FEB 09
PW2500 Y29-30 11 100 16 FEB 09 27 FEB 09 26 FEB 09 11 MAR 09
PW2510 Y30-31 12 100 26 FEB 09 12 MAR 09 14 MAR 09 25 MAR 09
PW2520 Y31-32 11 100 14 MAR 09 26 MAR 09 27 MAR 09 08 APR 09
PW2530 Y32-33 10 100 27 MAR 09 09 APR 09 09 APR 09 23 APR 09
Y36-Y40
PW2540 Y36-37 12 100 15 JUL 08 29 JUL 08 29 JUL 08 14 AUG 08
PW2550 Y37-38 12 100 29 JUL 08 15 AUG 08 18 AUG 08 30 AUG 08
PW2560 Y38-39 12 100 18 AUG 08 01 SEP 08 04 SEP 08 17 SEP 08
PW2570 Y39-40 11 100 05 SEP 08 20 SEP 08 22 SEP 08 04 OCT 08
Y41-Y48
PW2580 Y41-42 14 100 09 APR 09 24 APR 09 28 APR 09 12 MAY 09
PW2590 Y42-43 15 100 25 APR 09 13 MAY 09 13 MAY 09 27 MAY 09
PW2600 Y43-44 15 100 13 MAY 09 29 MAY 09 29 MAY 09 09 JUN 09
PW2610 Y44-45 16 100 29 MAY 09 09 JUN 09 09 JUN 09 19 JUN 09
PW2620 Y45-47 14 100 09 JUN 09 19 JUN 09 24 JUN 09 04 JUL 09
PW2630 Y46-47 14 100 24 JUN 09 04 JUL 09 10 JUL 09 21 JUL 09
PW2640 Y47-48 14 100 10 JUL 09 22 JUL 09 31 JUL 09 11 AUG 09
Y65-Y83
PW2021 Inspection Pit / Liaison with UU/ UU Diversion 34 100 15 JUL 08 25 JUL 08 01 SEP 08 15 SEP 08
PW2567 Y77-78 7 100 01 SEP 08 15 SEP 08 11 SEP 08 27 SEP 08
PW2023 Y78-79 7 100 12 SEP 08 29 SEP 08 25 SEP 08 09 OCT 08
PW2030 Y65-66 (Pending for Engineer Instruction) 10 100 25 SEP 08 07 OCT 08 07 OCT 08 17 OCT 08
PW2040 Y66-67 (Pending for Engineer Instruction) 10 100 07 OCT 08 16 OCT 08 16 OCT 08 28 OCT 08
PW2050 Y67-68 (Pending for Engineer Instruction) 10 100 16 OCT 08 30 OCT 08 30 OCT 08 10 NOV 08
PW2051 Y71-72 11 100 30 OCT 08 11 NOV 08 15 NOV 08 26 NOV 08
PW2052 Y72-73 11 100 15 NOV 08 27 NOV 08 02 DEC 08 12 DEC 08
PW2053 Y73-74 11 100 02 DEC 08 13 DEC 08 16 DEC 08 29 DEC 08
PW2054 Y74-75 12 100 16 DEC 08 30 DEC 08 02 JAN 09 13 JAN 09
PW2060 Y68-69 (Pending for Engineer Instruction) 14 100 02 JAN 09 14 JAN 09 16 JAN 09 02 FEB 09
PW2070 Y69-348 (Pending for Engineer Instruction) 14 100 19 JAN 09 02 FEB 09 02 FEB 09 16 FEB 09
PW2080 Y349-70 (Pending for Engineer Instruction) 14 100 07 FEB 09 19 FEB 09 24 FEB 09 06 MAR 09
PW2090 Y75-76 (Pending for Engineer Instruction) 14 100 24 FEB 09 07 MAR 09 12 MAR 09 25 MAR 09
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PW2079 Y76-79 (Pending for Engineer Instruction) 14 100 26 MAR 09 14 APR 09 16 APR 09 29 APR 09
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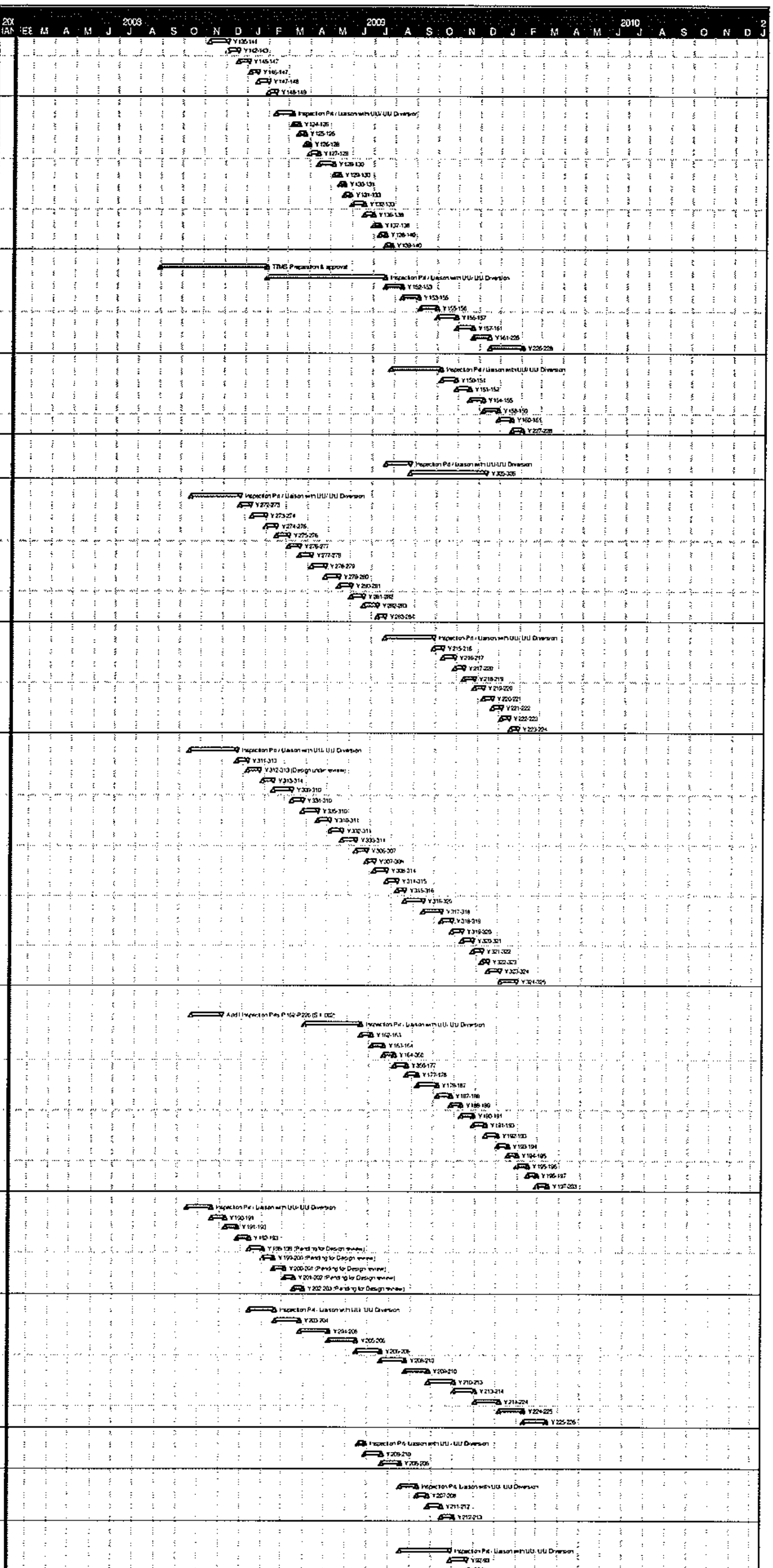
PW3029 Y80-81 21 100 30 MAY 03 25 MAY 03 12 JUN 03 23 JUN 03
PW3108 Y81-82 21 100 12 JUN 03 24 JUN 03 07 JUL 03 17 JUL 03
PW3319 Y82-83 21 100 07 JUL 03 18 JUL 03 31 JUL 03 11 AUG 03
Y21-Y48
PW2339 UU diversion for Y21-Y48 25 100 30 OCT 08 16 FEB 09 26 NOV 08 16 MAR 09
PW2105 Y21-343 21 100 26 NOV 08 17 MAR 09 29 DEC 08 14 APR 09
PW2550 Y343-33 21 100 29 DEC 08 15 APR 09 17 JAN 09 11 MAY 09
PW2570 Y33-346 14 100 17 JAN 09 12 MAY 09 06 FEB 09 27 MAY 09
PW2580 Y346-34 14 100 06 FEB 09 26 MAY 09 23 FEB 09 15 JUN 09
PW2580 Y34-35 14 100 23 FEB 09 16 JUN 09 11 MAR 09 01 JUL 09
PW2700 Y35-40 14 100 11 MAR 09 02 JUL 09 27 MAR 09 12 JUL 09
PW2710 Y40-48 21 100 25 MAR 09 16 JUL 09 25 APR 09 11 AUG 09
WO 013 (SPOV Y291-Y294, Y299-Y305)
Y291-Y294
RE4580 Inspection Pit / Liaison with UU/ UU Diversion 7 420 18 AUG 08 16 OCT 08 27 AUG 08 23 OCT 08
RE4590 Y291-292 21 420 26 AUG 08 24 OCT 08 29 SEP 08 17 NOV 08
RE4600 Y292-293 21 420 30 SEP 08 18 NOV 08 20 OCT 08 11 DEC 08
RE4605 Y293-294 21 420 24 OCT 08 12 DEC 08 17 NOV 08 06 JAN 09
Y284-Y305
RE4620 Inspection Pit / Liaison with UU/ UU Diversion 30 420 18 NOV 08 02 JAN 09 20 DEC 08 03 FEB 09
RE4630 Y294-295 21 420 22 DEC 08 14 FEB 09 16 JAN 09 19 MAR 09
RE4640 Y295-301 21 420 17 JAN 09 11 MAR 09 13 FEB 09 03 APR 09
RE4650 Y301-302 21 420 14 FEB 09 09 APR 09 10 MAR 09 05 MAY 09
RE4660 Y302-303 21 420 11 MAR 09 06 MAY 09 03 APR 09 30 MAY 09
RE4670 Y303-304 21 420 09 APR 09 02 JUN 09 05 MAY 09 25 JUN 09
RE4680 Y304-305 21 420 06 MAY 09 26 JUN 09 30 MAY 09 20 JUL 09
RE4700 Y305-307 21 420 02 JUN 09 21 JUL 09 02 JUL 09 20 AUG 09
WO 014 (SPOV,SPNV & KL)
Y287 - Y301
SO3180 Inspection Pit / Liaison with UU/ UU Diversion 15 340 16 AUG 08 07 OCT 08 13 SEP 08 29 OCT 08
SO3190 Y287-288 11 340 13 SEP 08 29 OCT 08 04 OCT 08 13 NOV 08
SO3200 Y288-289 18 340 06 OCT 08 14 NOV 08 20 OCT 08 02 DEC 08
SO3210 Y289-290 12 340 03 FEB 09 19 MAR 09 16 FEB 09 27 MAR 09
SO3220 Y290-295 12 340 17 FEB 09 04 MAR 09 02 MAR 09 13 APR 09
SO3230 Y295-296 12 340 03 MAR 09 16 APR 09 16 MAR 09 29 APR 09
SO3270 Y296-298 7 340 17 MAR 09 30 APR 09 24 MAR 09 05 MAY 09
SO3240 Y298-297 10 340 25 MAR 09 11 MAY 09 06 APR 09 21 MAY 09
SO3250 Y297-298 10 340 07 APR 09 22 MAY 09 21 APR 09 04 JUN 09
SO3300 Y298-300 7 340 22 APR 09 05 JUN 09 23 APR 09 12 JUN 09
SO3310 Y299-300 11 340 20 APR 09 03 JUN 09 18 MAY 09 29 JUN 09
SO3320 Y300-301 7 340 19 MAY 09 30 JUN 09 25 MAY 09 07 JUL 09
Y165 - Y177
SN3100 Inspection Pit / Liaison with UU/ UU Diversion 60 0 18 AUG 08 18 AUG 08 15 NOV 08 15 NOV 08
SN3000 Y165-166 14 340 17 NOV 08 26 DEC 08 02 DEC 08 12 JAN 09
SN3010 Y166-167 13 340 01 DEC 08 13 JAN 09 16 DEC 08 27 JAN 09
SN3020 Y167-168 13 340 15 DEC 08 02 FEB 09 05 JAN 09 17 FEB 09
SN3030 Y168-169 14 340 06 JAN 09 19 FEB 09 21 JAN 09 04 MAR 09
SN3040 Y169-170 14 340 22 JAN 09 09 MAR 09 10 FEB 09 21 MAR 09
SN3050 Y170-357 14 340 11 FEB 09 25 MAR 09 24 FEB 09 04 APR 09
SN3060 Y357-171 14 340 27 FEB 09 09 APR 09 11 MAR 09 21 APR 09
SN3070 Y171-172 14 340 13 MAR 09 29 APR 09 31 MAR 09 16 MAY 09
SN3080 Y172-336 14 340 01 APR 09 16 MAY 09 21 APR 09 04 JUN 09
SN3090 Y336-173 14 340 22 APR 09 05 JUN 09 09 MAY 09 20 JUN 09
SN3000 Y173-174 14 340 13 MAY 09 22 JUN 09 26 MAY 09 07 JUL 09
SN3010 Y174-175 14 340 27 MAY 09 06 JUL 09 12 JUN 09 23 JUL 09
SN3020 Y175-351 10 340 15 JUN 09 24 JUL 09 27 JUN 09 06 AUG 09
SN3030 Y351-176 12 340 29 JUN 09 07 AUG 09 11 JUL 09 20 AUG 09
SN3040 Y176-352 12 340 13 JUL 09 21 AUG 09 25 JUL 09 03 SEP 09
SN3050 Y352-34 12 340 27 JUL 09 04 SEP 09 08 AUG 09 17 SEP 09
SN3060 Y34-177 11 340 10 AUG 09 18 SEP 09 25 AUG 09 06 OCT 09
Y179 - Y187
SN3000 Inspection Pit / Liaison with UU/ UU Diversion 27 0 17 NOV 08 17 NOV 08 10 DEC 08 10 DEC 08
SN3010 Y179-181 12 0 01 DEC 08 11 DEC 08 24 DEC 08 24 DEC 08
SN3080 Y180-181 12 0 29 DEC 08 25 DEC 08 08 JAN 09 08 JAN 09
SN3085 Y181-353 12 0 09 JAN 09 08 JAN 09 22 JAN 09 22 JAN 09
SN3020 Y353-354 11 0 23 JAN 09 23 JAN 09 11 FEB 09 11 FEB 09
SN3710 Y354-183 14 1130 12 FEB 09 03 JUL 09 27 FEB 09 16 JUL 09
SN3720 Y183-180 14 1130 26 FEB 09 29 JUL 09 13 MAR 09 04 AUG 09
SN3730 Y180-184 14 1130 13 MAR 09 05 AUG 09 27 MAR 09 20 AUG 09
SN3740 Y184-185 14 1130 27 MAR 09 21 AUG 09 09 APR 09 03 SEP 09
SN3750 Y185-186 12 1130 09 APR 09 07 SEP 09 24 APR 09 17 SEP 09
SN3760 Y186-187 12 1130 24 APR 09 21 SEP 09 08 MAY 09 01 OCT 09
Y259 - Y272
KL3810 Inspection Pit / Liaison with UU/ UU Diversion 15 340 24 OCT 08 03 DEC 08 10 NOV 08 19 DEC 08
KL3950 Y259-260 14 340 31 NOV 08 20 DEC 08 26 NOV 08 08 JAN 09
KL3960 Y260-262 14 340 27 NOV 08 07 JAN 09 04 DEC 08 14 JAN 09
KL3970 Y261-262 3 340 05 DEC 08 15 JAN 09 12 DEC 08 22 JAN 09
KL3980 Y262-263 10 340 13 DEC 08 25 JAN 09 24 DEC 08 06 FEB 09
KL3990 Y263-264 10 340 25 DEC 08 07 FEB 09 08 JAN 09 19 FEB 09
KL3000 Y264-265 10 340 07 JAN 09 19 FEB 09 17 JAN 09 02 MAR 09
KL3010 Y265-266 10 340 19 JAN 09 02 MAR 09 02 FEB 09 13 MAR 09
KL3020 Y266-267 12 340 27 JAN 09 09 JUL 09 11 JUN 09 21 JUL 09
KL3040 Y267-268 12 340 21 JUN 09 23 JUL 09 25 JUN 09 04 AUG 09
KL3050 Y268-272 13 340 25 JUN 09 09 AUG 09 09 JUL 09 19 AUG 09
KL3060 Y269-270 12 340 12 JUL 09 19 AUG 09 23 JUL 09 01 SEP 09
KL3080 Y270-271 11 340 24 JUL 09 02 SEP 09 06 AUG 09 17 SEP 09
KL3810 Y271-272 14 340 10 AUG 09 04 SEP 09 20 AUG 09 08 OCT 09
WO 015 (YSWMSt: Y86-Y112-Y228)
Y86-Y90-Y114, Y112-Y120
MS1540 Inspection Pit / Liaison with UU/ UU Diversion 29 460 01 SEP 08 07 NOV 08 10 OCT 08 03 DEC 08
MS1550 Y86-87 13 460 15 OCT 08 04 DEC 08 27 OCT 08 19 DEC 08
MS1560 Y87-88 13 460 29 OCT 08 18 DEC 08 07 NOV 08 02 JAN 09
MS1610 Y88-89 15 460 06 NOV 08 02 JAN 09 19 NOV 08 13 JAN 09
MS1620 Y89-90 15 460 20 NOV 08 16 JAN 09 01 DEC 08 23 JAN 09
MS1630 Y90-114 Pending for Ex. DN300 Sewer diversion 45 460 27 DEC 08 20 JAN 09 30 JAN 09 25 MAR 09
MS1640 Y112-113 21 1130 31 JAN 09 20 JUN 09 24 FEB 09 15 JUL 09
MS1650 Y113-114 21 1130 25 FEB 09 16 JUL 09 20 MAR 09 08 AUG 09
MS1660 Y114-115 21 1130 23 MAR 09 03 AUG 09 18 APR 09 05 SEP 09
MS1670 Y115-116 21 1130 20 APR 09 03 SEP 09 15 MAY 09 26 SEP 09
MS1680 Y116-Y90 14 1130 18 MAY 09 29 SEP 09 03 JUN 09 15 OCT 09
MS1690 Y355-117 14 1130 04 JUN 09 15 OCT 09 19 JUN 09 02 NOV 09
MS1700 Y117-356 14 1130 20 JUN 09 29 NOV 09 06 JUL 09 19 NOV 09
MS1710 Y356-118 14 1130 07 JUL 09 19 NOV 09 22 JUL 09 04 DEC 09
MS1720 Y118-119 30 1130 23 JUL 09 06 DEC 09 26 AUG 09 11 JAN 10
MS1730 Y119-120 21 1130 27 AUG 09 12 JAN 10 14 SEP 09 02 FEB 10
Y120-Y152 incl removal of AC pipes
MS1739 Inspection Pit / Liaison with UU/ UU Diversion 54 460 31 JAN 09 23 MAR 09 20 APR 09 17 JUN 09
MS1740 Y120-122 29 460 21 APR 09 18 JUN 09 25 MAY 09 26 JUL 09
MS1750 Y122-134 29 460 26 MAY 09 21 JUL 09 29 JUN 09 21 AUG 09
MS1760 Y134-141 29 460 30 JUN 09 22 AUG 09 31 JUL 09 23 SEP 09
MS1770 Y141-143 29 460 01 AUG 09 24 SEP 09 02 SEP 09 29 OCT 09
MS1780 Y143-144 29 460 05 SEP 09 29 OCT 09 07 OCT 09 04 DEC 09
MS1790 Y144-149 29 460 09 OCT 09 02 DEC 09 10 NOV 09 08 JAN 10
MS1800 Y149-152 29 460 11 NOV 09 08 JAN 10 09 DEC 09 03 FEB 10
Branches of Y120-Y152 (seaside)
MS1820 Inspection Pit / Liaison with UU/ UU Diversion 17 210 01 SEP 09 02 OCT 09 27 SEP 09 27 OCT 09
MS1830 Y121-122 14 210 25 SEP 09 23 OCT 09 14 OCT 09 07 NOV 09
MS1820 Y123-134 21 210 16 OCT 09 06 NOV 09 07 NOV 09 02 DEC 09
Start Date 31 JAN 08
Finish Date 19 APR 10
Page 34
Early start point
Early finish point
Early bar
Progress bar
Critical bar
Summary bar
Progress point
Critical point
Summary point
Start milestone point
Finish milestone point
DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works
Project Programme Rev. 6
Date | Revision | Checked | Approved
03 SEP 08 | Revision 3 | SIC | KC
31 OCT 08 | Revision 4 | SIC | KYS
28 DEC 08 | Revision 5 | SIC | KYS
05 JUN 09 | Revision 6 | SIC | WTH

Act ID	Activity Description	Orig Dur	Total Float	Early Start	Late Start	Early Finish	Late Finish
MS1830	Y135-141	21	21d	08 NOV 08	03 DEC 08	02 DEC 08	26 DEC 08
MS1840	Y142-143	14	21d	03 DEC 08	27 DEC 08	18 DEC 08	13 JAN 09
MS1850	Y145-147	13	21d	19 DEC 08	14 JAN 09	03 JAN 09	31 JAN 09
MS1860	Y146-147	10	21d	05 JAN 09	02 FEB 09	15 JAN 09	12 FEB 09
MS1870	Y147-148	10	21d	16 JAN 09	13 FEB 09	30 JAN 09	24 FEB 09
MS1880	Y148-149	10	21d	31 JAN 09	25 FEB 09	11 FEB 09	07 MAR 09
Branches of Y120-Y152 (hillside)							
MS1889	Inspection Pit / Liaison with UU/ UU Diversion	21	0	12 FEB 09	12 FEB 09	07 MAR 09	07 MAR 09
MS1890	Y124-125	7	0	09 MAR 09	09 MAR 09	16 MAR 09	16 MAR 09
MS1900	Y125-126	7	0	17 MAR 09	17 MAR 09	24 MAR 09	24 MAR 09
MS1910	Y126-128	7	0	25 MAR 09	25 MAR 09	01 APR 09	01 APR 09
MS1920	Y127-128	7	0	02 APR 09	02 APR 09	14 APR 09	14 APR 09
MS1930	Y129-130	16	0	15 APR 09	15 APR 09	05 MAY 09	05 MAY 09
MS1940	Y129-130	7	0	06 MAY 09	06 MAY 09	13 MAY 09	13 MAY 09
MS1950	Y130-131	7	0	14 MAY 09	14 MAY 09	21 MAY 09	21 MAY 09
MS1960	Y131-133	7	0	22 MAY 09	22 MAY 09	30 MAY 09	30 MAY 09
MS1970	Y132-133	14	0	02 JUN 09	02 JUN 09	17 JUN 09	17 JUN 09
MS1980	Y135-138	11	0	18 JUN 09	18 JUN 09	30 JUN 09	30 JUN 09
MS1990	Y137-138	9	0	01 JUL 09	01 JUL 09	10 JUL 09	10 JUL 09
MS2000	Y138-140	7	0	11 JUL 09	11 JUL 09	18 JUL 09	18 JUL 09
MS2010	Y139-140	7	0	20 JUL 09	20 JUL 09	27 JUL 09	27 JUL 09
Y152-Y228 incl removal of AC pipes							
MS2008	TTMS Preparation & approval	120	0	01 SEP 08	01 SEP 08	30 JAN 09	30 JAN 09
MS2009	Inspection Pit / Liaison with UU/ UU Diversion	137	0	31 JAN 09	31 JAN 09	18 JUL 09	18 JUL 09
MS2040	Y152-153	21	0	20 JUL 09	20 JUL 09	12 AUG 09	12 AUG 09
MS2050	Y153-155	21	0	13 AUG 09	13 AUG 09	05 SEP 09	05 SEP 09
MS2060	Y155-156	21	0	07 SEP 09	07 SEP 09	30 SEP 09	30 SEP 09
MS2070	Y156-157	21	0	02 OCT 09	02 OCT 09	28 OCT 09	28 OCT 09
MS2090	Y157-161	21	0	29 OCT 09	29 OCT 09	21 NOV 09	21 NOV 09
MS2080	Y161-225	21	0	23 NOV 09	23 NOV 09	16 DEC 09	16 DEC 09
MS2100	Y225-228	40	0	17 DEC 09	17 DEC 09	03 FEB 10	03 FEB 10
Y150-Y152, Y154-Y155,Y158-Y161							
MS2108	Inspection Pit / Liaison with UU/ UU Diversion	60	0	28 JUL 09	28 JUL 09	07 OCT 09	07 OCT 09
MS2110	Y150-151	17	0	08 OCT 09	08 OCT 09	28 OCT 09	28 OCT 09
MS2120	Y151-152	17	0	29 OCT 09	29 OCT 09	17 NOV 09	17 NOV 09
MS2130	Y154-155	17	0	18 NOV 09	18 NOV 09	07 DEC 09	07 DEC 09
MS2140	Y158-159	17	0	08 DEC 09	08 DEC 09	29 DEC 09	29 DEC 09
MS2150	Y160-161	17	0	30 DEC 09	30 DEC 09	18 JAN 10	18 JAN 10
MS2160	Y227-228	14	0	19 JAN 10	19 JAN 10	03 FEB 10	03 FEB 10
WO 018 (SPOV Y306-Y223 Yits Branches)							
Y325 - Y326							
BS3150	Inspection Pit / Liaison with UU/UU Diversion	30	57d	22 JUL 09	26 SEP 09	25 AUG 09	03 NOV 09
BS3160	Y325-326	50	57d	26 AUG 09	04 NOV 09	11 DEC 09	18 FEB 10
Y272 - Y284							
KL3979	Inspection Pit / Liaison with UU/ UU Diversion	60	18d	16 OCT 08	06 NOV 08	24 DEC 08	15 JAN 09
KL3980	Y272-273	14	18d	25 DEC 08	16 JAN 09	10 JAN 09	04 FEB 09
KL3990	Y273-274	14	18d	12 JAN 09	05 FEB 09	30 JAN 09	20 FEB 09
KL4000	Y274-276	14	18d	31 JAN 09	21 FEB 09	16 FEB 09	09 MAR 09
KL4010	Y275-276	14	18d	17 FEB 09	10 MAR 09	04 MAR 09	25 MAR 09
KL4020	Y276-277	14	18d	05 MAR 09	26 MAR 09	20 MAR 09	15 APR 09
KL4030	Y277-279	14	18d	21 MAR 09	16 APR 09	07 APR 09	04 MAY 09
KL4040	Y278-279	14	18d	08 APR 09	06 MAY 09	27 APR 09	20 MAY 09
KL4050	Y279-280	14	18d	28 APR 09	21 MAY 09	15 MAY 09	08 JUN 09
KL4060	Y280-281	14	18d	16 MAY 09	09 JUN 09	03 JUN 09	24 JUN 09
KL4070	Y281-282	14	18d	04 JUN 09	25 JUN 09	19 JUN 09	10 JUL 09
KL4080	Y282-283	17	18d	20 JUN 09	11 JUL 09	09 JUL 09	30 JUL 09
KL4090	Y283-284	16	18d	10 JUL 09	31 JUL 09	21 JUL 09	11 AUG 09
Y215-Y224							
AW4139	Inspection Pit / Liaison with UU/ UU Diversion	59	18d	22 JUL 09	12 AUG 09	28 SEP 09	21 OCT 09
AW4220	Y215-216	10	18d	29 SEP 09	22 OCT 09	12 OCT 09	03 NOV 09
AW4230	Y216-217	14	18d	13 OCT 09	04 NOV 09	28 OCT 09	19 NOV 09
AW4240	Y217-220	10	18d	30 OCT 09	20 NOV 09	10 NOV 09	01 DEC 09
AW4250	Y218-219	14	18d	11 NOV 09	02 DEC 09	26 NOV 09	17 DEC 09
AW4260	Y219-220	12	18d	27 NOV 09	18 DEC 09	10 DEC 09	02 JAN 10
AW4270	Y220-221	10	18d	11 DEC 09	04 JAN 10	22 DEC 09	14 JAN 10
AW4280	Y221-222	10	18d	23 DEC 09	15 JAN 10	05 JAN 10	26 JAN 10
AW4290	Y222-223	10	18d	06 JAN 10	27 JAN 10	16 JAN 10	06 FEB 10
AW4300	Y223-224	10	18d	18 JAN 10	08 FEB 10	29 JAN 10	18 FEB 10
Y306-Y325							
AW4329	Inspection Pit / Liaison with UU/ UU Diversion	56	18d	16 OCT 08	06 NOV 08	22 DEC 08	13 JAN 09
AW4330	Y311-313	14	18d	23 DEC 08	14 JAN 09	08 JAN 09	02 FEB 09
AW4340	Y312-313 (Design under review)	14	18d	09 JAN 09	03 FEB 09	24 JAN 09	18 FEB 09
AW4350	Y313-314	14	18d	29 JAN 09	19 FEB 09	13 FEB 09	06 MAR 09
AW4360	Y309-313	22	18d	14 FEB 09	07 MAR 09	11 MAR 09	01 APR 09
AW4370	Y304-310	14	18d	12 MAR 09	02 APR 09	27 MAR 09	22 APR 09
AW4380	Y305-310	14	18d	28 MAR 09	23 APR 09	17 APR 09	11 MAY 09
AW4390	Y310-311	14	18d	18 APR 09	12 MAY 09	06 MAY 09	27 MAY 09
AW4400	Y332-311	14	18d	07 MAY 09	29 MAY 09	22 MAY 09	15 JUN 09
AW4410	Y333-311	14	18d	23 MAY 09	16 JUN 09	10 JUN 09	01 JUL 09
AW4420	Y306-307	14	18d	11 JUN 09	02 JUL 09	26 JUN 09	17 JUL 09
AW4430	Y307-308	10	18d	27 JUN 09	18 JUL 09	08 JUL 09	29 JUL 09
AW4440	Y308-314	14	18d	09 JUL 09	30 JUL 09	24 JUL 09	14 AUG 09
AW4450	Y314-315	14	18d	25 JUL 09	15 AUG 09	10 AUG 09	31 AUG 09
AW4460	Y315-316	10	18d	11 AUG 09	01 SEP 09	21 AUG 09	11 SEP 09
AW4470	Y316-305	21	18d	22 AUG 09	12 SEP 09	15 SEP 09	08 OCT 09
AW4480	Y317-318	23	18d	16 SEP 09	09 OCT 09	12 OCT 09	03 NOV 09
AW4490	Y318-319	12	18d	13 OCT 09	04 NOV 09	27 OCT 09	17 NOV 09
AW4500	Y319-320	13	18d	28 OCT 09	18 NOV 09	11 NOV 09	02 DEC 09
AW4510	Y320-321	14	18d	12 NOV 09	03 DEC 09	27 NOV 09	18 DEC 09
AW4520	Y321-322	10	18d	28 NOV 09	19 DEC 09	09 DEC 09	01 JAN 10
AW4530	Y322-323	6	18d	10 DEC 09	02 JAN 10	16 DEC 09	11 JAN 10
AW4540	Y323-324	13	18d	19 DEC 09	12 JAN 10	05 JAN 10	25 JAN 10
AW4550	Y324-325	20	18d	06 JAN 10	27 JAN 10	28 JAN 10	18 FEB 10
WO 019 (SPNV Y162-Y226 & Its Branches)							
Y162-Y177-Y187-Y197-Y203 incl removal of AC Pipe							
SN3329	Add Inspection Pits P162-P226 (S.I. 002)	39	87d	21 OCT 08	16 FEB 09	04 DEC 08	01 APR 09
SN3329	Inspection Pit / Liaison with UU/ UU Diversion	60	0	02 APR 09	02 APR 09	19 JUN 09	19 JUN 09
SN3330	Y162-163	14	0	20 JUN 09	20 JUN 09	06 JUL 09	06 JUL 09
SN3340	Y163-164	14	0	07 JUL 09	07 JUL 09	22 JUL 09	22 JUL 09
SN3350	Y164-202	14	0	23 JUL 09	23 JUL 09	07 AUG 09	07 AUG 09
SN3360	Y202-177	14	0	08 AUG 09	08 AUG 09	24 AUG 09	24 AUG 09
SN3370	Y177-178	14	0	25 AUG 09	25 AUG 09	09 SEP 09	09 SEP 09
SN3380	Y178-182	21	0	10 SEP 09	10 SEP 09	06 OCT 09	06 OCT 09
SN3390	Y187-188	17	0	07 OCT 09	07 OCT 09	27 OCT 09	27 OCT 09
SN3400	Y188-189	14	0	28 OCT 09	28 OCT 09	12 NOV 09	12 NOV 09
SN3420	Y190-191	14	0	13 NOV 09	13 NOV 09	28 NOV 09	28 NOV 09
SN3430	Y191-193	14	0	30 NOV 09	30 NOV 09	15 DEC 09	15 DEC 09
SN3440	Y192-193	14	0	16 DEC 09	16 DEC 09	02 JAN 10	02 JAN 10
SN3450	Y193-194	13	0	04 JAN 10	04 JAN 10	18 JAN 10	18 JAN 10
SN3460	Y194-195	12	0	19 JAN 10	19 JAN 10	01 FEB 10	01 FEB 10
SN3470	Y195-196	12	0	02 FEB 10	02 FEB 10	15 FEB 10	15 FEB 10
SN3480	Y196-197	12	0	16 FEB 10	16 FEB 10	01 MAR 10	01 MAR 10
SN3490	Y197-203	12	0	02 MAR 10	02 MAR 10	15 MAR 10	15 MAR 10
Y190 - Y191; Y192 - Y193; Y198 - Y203							
SN3269	Inspection Pit / Liaison with UU/ UU Diversion	30	0	16 OCT 08	16 OCT 08	19 NOV 08	19 NOV 08
SN3270	Y190-191	18	0	20 NOV 08	20 NOV 08	10 DEC 08	10 DEC 08
SN3280	Y191-193	14	0	11 DEC 08	11 DEC 08	26 DEC 08	26 DEC 08
SN3290	Y192-193	14	0	27 DEC 08	27 DEC 08	13 JAN 09	13 JAN 09
SN3300	Y198-199 (Pending for Design review)	17	0	14 JAN 09	14 JAN 09	02 FEB 09	02 FEB 09
SN3310	Y199-200 (Pending for Design review)	14	0	03 FEB 09	03 FEB 09	18 FEB 09	18 FEB 09
SN3320	Y200-201 (Pending for Design review)	12	0	19 FEB 09	19 FEB 09	04 MAR 09	04 MAR 09
SN3330	Y201-202 (Pending for Design review)	12	0	05 MAR 09	05 MAR 09	18 MAR 09	18 MAR 09
SN3340	Y202-203 (Pending for Design review)	12	0	19 MAR 09	19 MAR 09	01 APR 09	01 APR 09
Y203-Y226 Incl. removal of AC Pipes							
AW4099	Inspection Pit / Liaison with UU/ UU Diversion	30	0	14 JAN 09	14 JAN 09	20 FEB 09	20 FEB 09
AW4100	Y203-204	30	0	21 FEB 09	21 FEB 09	27 MAR 09	27 MAR 09
AW4110	Y204-205	30	0	28 MAR 09	28 MAR 09	08 MAY 09	08 MAY 09
AW4120	Y205-206	30	0	09 MAY 09	09 MAY 09	15 JUN 09	15 JUN 09
AW4130	Y206-209	30	0	16 JUN 09	16 JUN 09	20 JUL 09	20 JUL 09
AW4150	Y209-210	30	0	21 JUL 09	21 JUL 09	24 AUG 09	24 AUG 09
AW4160	Y209-210	29	0	25 AUG 09	25 AUG 09	26 SEP 09	26 SEP 09
AW4170	Y210-213	29	0	28 SEP 09	28 SEP 09	02 NOV 09	02 NOV 09
AW4200	Y213-214	29	0	03 NOV 09	03 NOV 09	04 DEC 09	04 DEC 09
AW4210	Y214-224	29	0	05 DEC 09	05 DEC 09	08 JAN 10	08 JAN 10
AW4310	Y224-225	29	0	09 JAN 10	09 JAN 10	10 FEB 10	10 FEB 10
AW4320	Y225-226	29	0	11 FEB 10	11 FEB 10	15 MAR 10	15 MAR 10
Y205-Y206 , Y209-Y210 Rescue Excavation							
RE4559	Inspection Pit / Liaison with UU/ UU Diversion	8	0	20 JUN 09	20 JUN 09	29 JUN 09	29 JUN 09
RE4560	Y209-210	21	0	30 JUN 09	30 JUN 09	23 JUL 09	23 JUL 09
RE4570	Y205-206	21	0	24 JUL 09	24 JUL 09	17 AUG 09	17 AUG 09
Y207-Y208,Y211-Y213							
AW4139	Inspection Pit / Liaison with UU/ UU Diversion	21	0	18 AUG 09	18 AUG 09	10 SEP 09	10 SEP 09
AW4140	Y207-208	14	0	11 SEP 09	11 SEP 09	26 SEP 09	26 SEP 09
AW4180	Y211-212	14	0	28 SEP 09	28 SEP 09	15 OCT 09	15 OCT 09
AW4190	Y212-213	14	0	16 OCT 09	16 OCT 09	02 NOV 09	02 NOV 09
WO 027 (Y92-Y112, Y48-Y114)							
Y92-Y95-Y108							
MS1420	Inspection Pit / Liaison with UU/ UU Diversion	60	24d	18 AUG 09	15 SEP 09	29 OCT 09	26 NOV 09
MS1430	Y92-93	21	24d	30 OCT 09	27 NOV 09	23 NOV 09	21 DEC 09
MS1450	Y93-94	21	24d	24 NOV 09	22 DEC 09	17 DEC 09	16 JAN 10
MS1460	Y94-357	21	24d	18 DEC 09	18 JAN 10	13 JAN 10	10 FEB 10
MS1470	Y357-95	21	24d	14 JAN 10	11 FEB 10	06 FEB 10	06 MAR 10
MS1480	Y95-108	21	24d	08 FEB 10	08 MAR 10	03 MAR 10	31 MAR 10
Y108-Y112							
MS1549	Inspection Pit / Liaison with UU/ UU Diversion	60	104d	15 NOV 08	21 MAR 09	24 JAN 09	08 JUN 09
MS1550	Y108-109	21	104d	29 JAN 09	09 JUN 09	21 FEB 09	02 JUL 09
MS1560	Y109-110	21	104d	23 FEB 09	03 JUL 09	18 MAR 09	27 JUL 09



Start Date 31 JAN 08
Finish Date 15 APR 10

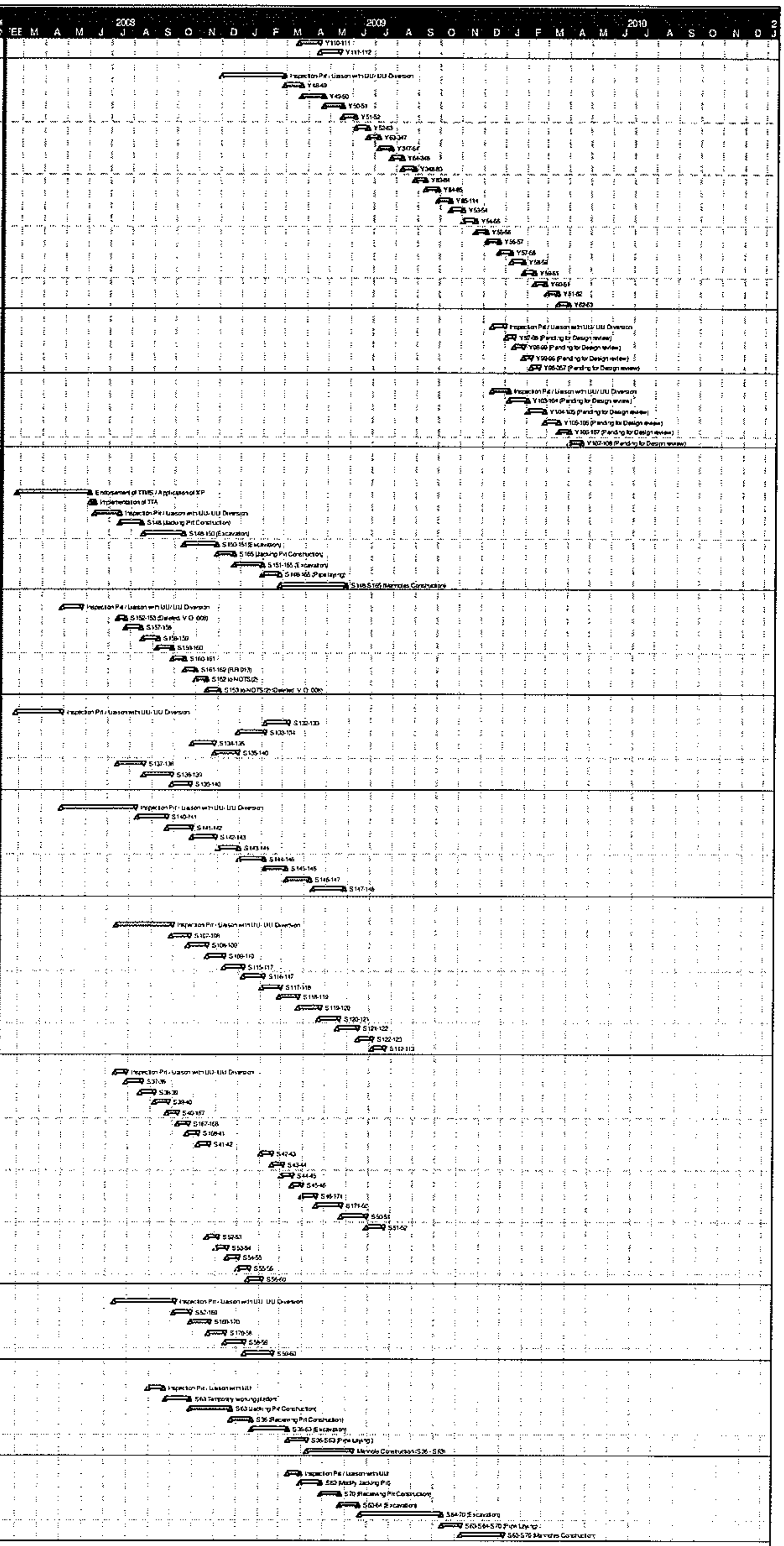
Page 54

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

DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works
Project Programme Rev. 6

Date	Revision	Checked	Approved
03 SEP 08	Revision 3	SIL	RC
31 OCT 08	Revision 4	SIL	KYS
24 DEC 08	Revision 5	SIL	KYS
06 JUN 09	Revision 6	SIL	WTH

Act ID	Activity Description	Orig Dur	Total Float	Early Start	Late Start	Early Finish	Late Finish
MS1570	Y110-111	21	104d	19 MAR 09	28 JUL 09	15 APR 09	20 AUG 09
MS1580	Y111-112	21	104d	17 APR 09	21 AUG 09	13 MAY 09	14 SEP 09
Y48-Y64-Y114							
PW2649	Inspection Pit / Liaison with UU/ UU Diversion	72	0	01 DEC 08 *	01 DEC 08	26 FEB 09	26 FEB 09
PW2650	Y48-49	21	0	27 FEB 09	27 FEB 09	23 MAR 09	23 MAR 09
PW2720	Y49-50	21	0	24 MAR 09	24 MAR 09	21 APR 09	21 APR 09
PW2730	Y50-51	21	0	22 APR 09	22 APR 09	18 MAY 09	18 MAY 09
PW2740	Y51-52	14	0	19 MAY 09	19 MAY 09	05 JUN 09	05 JUN 09
PW2750	Y52-63	14	0	06 JUN 09	06 JUN 09	22 JUN 09	22 JUN 09
PW2760	Y63-347	14	0	23 JUN 09	23 JUN 09	08 JUL 09	08 JUL 09
PW2770	Y347-64	14	0	09 JUL 09	09 JUL 09	24 JUL 09	24 JUL 09
PW2780	Y64-348	14	0	25 JUL 09	25 JUL 09	10 AUG 09	10 AUG 09
PW2790	Y348-83	14	0	11 AUG 09	11 AUG 09	26 AUG 09	26 AUG 09
PW2800	Y83-84	14	0	27 AUG 09	27 AUG 09	11 SEP 09	11 SEP 09
PW2810	Y84-85	14	0	12 SEP 09	12 SEP 09	28 SEP 09	28 SEP 09
PW2820	Y85-114	14	0	29 SEP 09	29 SEP 09	16 OCT 09	16 OCT 09
PW2830	Y53-54	14	0	17 OCT 09 *	17 OCT 09	03 NOV 09	03 NOV 09
PW2840	Y54-55	14	0	04 NOV 09	04 NOV 09	19 NOV 09	19 NOV 09
PW2850	Y55-56	14	0	20 NOV 09	20 NOV 09	05 DEC 09	05 DEC 09
PW2860	Y56-57	14	0	07 DEC 09	07 DEC 09	22 DEC 09	22 DEC 09
PW2870	Y57-58	14	0	23 DEC 09	23 DEC 09	09 JAN 10	09 JAN 10
PW2880	Y58-59	14	0	11 JAN 10	11 JAN 10	26 JAN 10	26 JAN 10
PW2890	Y59-61	14	0	27 JAN 10	27 JAN 10	11 FEB 10	11 FEB 10
PW2900	Y60-61	14	0	12 FEB 10	12 FEB 10	27 FEB 10	27 FEB 10
PW2910	Y61-62	14	0	01 MAR 10	01 MAR 10	16 MAR 10	16 MAR 10
PW2920	Y62-63	13	0	17 MAR 10	17 MAR 10	31 MAR 10	31 MAR 10 *
Y97 - Y99 - Y96 - Y357							
PW3109	Inspection Pit / Liaison with UU/ UU Diversion	14	53d	14 DEC 09 *	16 FEB 10	31 DEC 09	03 MAR 10
PW3120	Y97-98 (Pending for Design review)	10	51d	04 JAN 10 *	04 MAR 10	14 JAN 10	15 MAR 10
PW3130	Y98-99 (Pending for Design review)	10	51d	15 JAN 10	16 MAR 10	26 JAN 10	26 MAR 10
PW3140	Y99-96 (Pending for Design review)	10	51d	27 JAN 10	27 MAR 10	06 FEB 10	07 APR 10
PW3150	Y96-357 (Pending for Design review)	10	51d	08 FEB 10 *	08 APR 10	18 FEB 10	19 APR 10
Y103 - Y108							
PW1490	Inspection Pit / Liaison with UU/ UU Diversion	21	0	14 DEC 09 *	14 DEC 09	08 JAN 10	08 JAN 10
PW1500	Y103-104 (Pending for Design review)	21	0	08 JAN 10 *	08 JAN 10	02 FEB 10	02 FEB 10
PW1510	Y104-105 (Pending for Design review)	21	0	03 FEB 10	03 FEB 10	26 FEB 10	26 FEB 10
PW1520	Y105-106 (Pending for Design review)	16	0	27 FEB 10	27 FEB 10	17 MAR 10	17 MAR 10
PW1530	Y106-107 (Pending for Design review)	14	0	18 MAR 10	18 MAR 10	02 APR 10	02 APR 10
PW1540	Y107-108 (Pending for Design review)	14	0	03 APR 10	03 APR 10	19 APR 10	19 APR 10
SOK KWU WAN							
WO 006 (S148-S165 Trenchless and SKW2nd St.)							
S148-S165 Trenchless							
MT4707	Endorsement of TTMS / Application of XP	0		26 FEB 08 A	26 FEB 08 A	04 JUN 08 A	04 JUN 08 A
MT4708	Implementation of TTA	4	0	05 JUN 08 *	05 JUN 08	12 JUN 08	12 JUN 08
MT4709	Inspection Pit / Liaison with UU/ UU Diversion	14	0	12 JUN 08 *	12 JUN 08	17 JUL 08	17 JUL 08
MT4710	S148 (Jacking Pit Construction)	21	0	17 JUL 08	17 JUL 08	16 AUG 08	16 AUG 08
MT4711	S148-150 (Excavation)	40	0	18 AUG 08	18 AUG 08	13 OCT 08	13 OCT 08
MT4721	S150-151 (Excavation)	40	0	14 OCT 08	14 OCT 08	29 NOV 08	29 NOV 08
MT4730	S165 (Jacking Pit Construction)	21	0	29 NOV 08	29 NOV 08	23 DEC 08	23 DEC 08
MT4731	S151-165 (Excavation)	30	0	24 DEC 08	24 DEC 08	31 JAN 09	31 JAN 09
MT4820	S148-165 (Pipe laying)	21	0	02 FEB 09	02 FEB 09	25 FEB 09	25 FEB 09
MT4830	S148-S165 Manholes Construction	71	0	26 FEB 09	26 FEB 09	26 MAY 09	26 MAY 09
S157-S162- End, S152-S153-End							
MT4739	Inspection Pit / Liaison with UU/ UU Diversion	21	20d	29 APR 08	23 MAY 08	24 MAY 08	11 JUL 08
MT4740	S152-153 (Deleted V.O. 008)	10	0	14 JUL 08	14 JUL 08	25 JUL 08	25 JUL 08
MT4750	S157-158	14	0	25 JUL 08	25 JUL 08	16 AUG 08	16 AUG 08
MT4760	S158-159	14	0	18 AUG 08	18 AUG 08	08 SEP 08	08 SEP 08
MT4770	S159-160	14	0	09 SEP 08	09 SEP 08	29 SEP 08	29 SEP 08
MT4780	S160-161	14	0	30 SEP 08	30 SEP 08	15 OCT 08	15 OCT 08
MT4790	S161-162 (RR 013)	14	0	16 OCT 08	16 OCT 08	31 OCT 08	31 OCT 08
MT4800	S162 to NOTS (2)	13	0	01 NOV 08	01 NOV 08	15 NOV 08	15 NOV 08
MT4810	S153 to NOTS (2) (Deleted V.O. 008)	15	0	17 NOV 08	17 NOV 08	03 DEC 08	03 DEC 08
S132-S140							
SS4819	Inspection Pit / Liaison with UU/ UU Diversion	54	5d	26 FEB 08	01 MAR 08	28 APR 08	03 MAY 08
SS4820	S132-133	26	60d	06 FEB 09	22 APR 09	10 MAR 09	26 MAY 09
SS4830	S133-134	28	60d	31 DEC 08	16 MAR 09	05 FEB 09	21 APR 09
SS4840	S134-135	28	60d	27 OCT 08	06 JAN 09	27 NOV 08	10 FEB 09
SS4850	S135-140	28	60d	28 NOV 08	11 FEB 09	30 DEC 08	14 MAR 09
SS4870	S137-138	26	60d	14 JUL 08	09 OCT 08	18 AUG 08	07 NOV 08
SS4880	S138-139	26	60d	20 AUG 08	08 NOV 08	29 SEP 08	06 DEC 08
SS4890	S139-140	23	60d	30 SEP 08	09 DEC 08	25 OCT 08	05 JAN 09
S140-S148							
SS4890	Inspection Pit / Liaison with UU/ UU Diversion	60	5d	29 APR 08	03 MAY 08	09 AUG 08	16 AUG 08
SS4900	S140-141	26	5d	12 AUG 08	18 AUG 08	22 SEP 08	29 SEP 08
SS4910	S141-142	26	5d	22 SEP 08	30 SEP 08	27 OCT 08	31 OCT 08
SS4920	S142-143	26	5d	27 OCT 08	01 NOV 08	28 NOV 08	03 DEC 08
SS4930	S143-144	21	0	04 DEC 08	04 DEC 08	31 DEC 08	31 DEC 08
SS4940	S144-145	27	0	02 JAN 09	02 JAN 09	05 FEB 09	05 FEB 09
SS4950	S145-146	26	0	06 FEB 09	06 FEB 09	07 MAR 09	07 MAR 09
SS4960	S146-147	27	0	09 MAR 09	09 MAR 09	08 APR 09	09 APR 09
SS4970	S147-148	36	0	14 APR 09	14 APR 09	26 MAY 09	26 MAY 09
WO 010 (SKW 3rd Branches & CM S37-S60-S57)							
S107-S110,S115-S123,S112-S113							
SS5119	Inspection Pit / Liaison with UU/ UU Diversion	52	7d	15 JUL 08	22 JUL 08	30 SEP 08	07 OCT 08
SS5120	S107-108	21	7d	30 SEP 08	08 OCT 08	24 OCT 08	31 OCT 08
SS5130	S108-109	21	7d	24 OCT 08	01 NOV 08	18 NOV 08	25 NOV 08
SS5140	S109-110	21	7d	18 NOV 08	26 NOV 08	12 DEC 08	19 DEC 08
SS5150	S115-117	21	7d	12 DEC 08	20 DEC 08	07 JAN 09	14 JAN 09
SS5160	S116-117	21	7d	07 JAN 09	15 JAN 09	04 FEB 09	11 FEB 09
SS5170	S117-118	21	7d	04 FEB 09	12 FEB 09	28 FEB 09	07 MAR 09
SS5180	S118-119	21	7d	28 FEB 09	09 MAR 09	25 MAR 09	01 APR 09
SS5190	S119-120	21	7d	25 MAR 09	02 APR 09	23 APR 09	30 APR 09
SS5200	S120-121	21	7d	23 APR 09	04 MAY 09	20 MAY 09	27 MAY 09
SS5210	S121-122	21	7d	20 MAY 09	29 MAY 09	16 JUN 09	23 JUN 09
SS5220	S122-123	17	7d	16 JUN 09	24 JUN 09	06 JUL 09	13 JUL 09
SS5230	S112-113	15	7d	06 JUL 09	14 JUL 09	23 JUL 09	30 JUL 09
S37-S60							
CM5850	Inspection Pit / Liaison with UU/ UU Diversion	14	7d	15 JUL 08	22 JUL 08	30 JUL 08	12 AUG 08
CM5860	S37-38	14	7d	31 JUL 08	11 AUG 08	19 AUG 08	28 AUG 08
CM5870	S38-39	12	7d	19 AUG 08	29 AUG 08	06 SEP 08	15 SEP 08
CM5880	S39-40	12	7d	08 SEP 08	15 SEP 08	26 SEP 08	03 OCT 08
CM5890	S40-167	12	7d	26 SEP 08	04 OCT 08	10 OCT 08	17 OCT 08
CM5900	S167-168	12	7d	10 OCT 08	18 OCT 08	24 OCT 08	31 OCT 08
CM5910	S168-41	12	7d	24 OCT 08	01 NOV 08	07 NOV 08	14 NOV 08
CM5920	S41-42	12	7d	07 NOV 08	15 NOV 08	21 NOV 08	28 NOV 08
CM5930	S42-43	12	7d	04 FEB 09	12 FEB 09	18 FEB 09	25 FEB 09
CM5940	S43-44	12	7d	16 FEB 09	26 FEB 09	04 MAR 09	11 MAR 09
CM5950	S44-45	12	7d	04 MAR 09	12 MAR 09	18 MAR 09	25 MAR 09
CM5960	S45-46	12	7d	18 MAR 09	26 MAR 09	01 APR 09	09 APR 09
CM5970	S46-171	12	7d	01 APR 09	14 APR 09	20 APR 09	27 APR 09
CM5980	S171-50	28	7d	20 APR 09	28 APR 09	25 MAY 09	03 JUN 09
CM5981	S50-51	28	7d	25 MAY 09	04 JUN 09	29 JUN 09	06 JUL 09
CM5982	S51-52	21	7d	29 JUN 09	07 JUL 09	23 JUL 09	30 JUL 09
CM5983	S52-53	12	7d	21 NOV 08	29 NOV 08	05 DEC 08	12 DEC 08
CM5984	S53-54	12	7d	05 DEC 08	13 DEC 08	19 DEC 08	26 DEC 08
CM5990	S54-55	12	7d	19 DEC 08	27 DEC 08	03 JAN 09	10 JAN 09
CM6000	S55-56	12	7d	03 JAN 09	12 JAN 09	17 JAN 09	24 JAN 09
CM6010	S56-60	12	7d	17 JAN 09	29 JAN 09	04 FEB 09	11 FEB 09
S57-S60 & Clearance of Squattered Huts							
CM6069	Inspection Pit / Liaison with UU/ UU Diversion	57	82d	15 JUL 08	04 NOV 08	06 OCT 08	09 JAN 09
CM6070	S57-169	21	82d	06 OCT 08	10 JAN 09	30 OCT 08	06 FEB 09
CM6080	S169-170	21	82d	30 OCT 08	07 FEB 09	24 NOV 08	03 MAR 09
CM6090	S170-58	20	82d	24 NOV 08	04 MAR 09	17 DEC 08	26 MAR 09
CM6100	S58-59	21	82d	17 DEC 08	27 MAR 09	12 JAN 09	24 APR 09
CM6110	S59-60	30	82d	12 JAN 09	25 APR 09	19 FEB 09	03 JUN 09
WO 015 (Trenchless S36-S70)							
S36-S63 , S36A-S63A (Trenchless)							
CM6209	Inspection Pit / Liaison with UU	14	0	01 SEP 08	01 SEP 08	22 SEP 08	22 SEP 08
CM6210	S63 Temporary working platform	30	0	25 SEP 08	25 SEP 08	29 OCT 08	29 OCT 08
CM6212	S63 (Jacking Pit Construction)	48	0	30 OCT 08	30 OCT 08	24 DEC 08	24 DEC 08
CM6213	S36 (Receiving Pit Construction)	24	0	25 DEC 08	25 DEC 08	22 JAN 09	22 JAN 09
CM6220	S36-63 (Excavation)	40	0	23 JAN 09	23 JAN 09	13 MAR 09	13 MAR 09
CM6270	S36-S63 (Pipe Laying)	21	179d	14 MAR 09	21 OCT 09	08 APR 09	14 NOV 09
CM6280	Manhole Construction (S36 - S63)	48	179d	09 APR 09	16 NOV 09	11 JUN 09	12 JAN 10
S64-S70 (Trenchless)							
CM6229	Inspection Pit / Liaison with UU	14	0	14 MAR 09	14 MAR 09	30 MAR 09	30 MAR 09
CM6231	S63 Modify Jacking Pit	21	0	31 MAR 09	31 MAR 09	28 APR 09	28 APR 09
CM6232	S70 (Receiving Pit Construction)	21	0	29 APR 09	29 APR 09	25 MAY 09	25 MAY 09
CM6233	S63-64 (Excavation)	21	0	26 MAY 09	26 MAY 09	20 JUN 09	20 JUN 09
CM6240	S64-70 (Excavation)	97	0	22 JUN 09	22 JUN 09	14 OCT 09	14 OCT 09
CM6290	S63-S64-S70 (Pipe Laying)	21	4d	15 OCT 09	20 OCT 09	09 NOV 09	13 NOV 09
CM6300	S63-S70 Manholes Construction	49	4d	10 NOV 09	14 NOV 09	07 JAN 10	12 JAN 10
WO 017 (SKW2nd Branches to 3rd St & CM)							
S110-S132,S127-S132							
SS4979	Inspection Pit / Liaison with UU/ UU Diversion	30	2d	01 DEC 08 *	03 DEC 08	05 JAN 09	07 JAN 09
SS4980	S110-111	14	2d	06 JAN 09 *	08 JAN 09	21 JAN 09	23 JAN 09
SS4990	S111-113	14	2d	22 JAN 09	24 JAN 09	10 FEB 09	12 FEB 09
SS5010	S113-114	14	2d	11 FEB 09	13 FEB 09	26 FEB 09	28 FEB 09
SS5020	S114-123	14	2d	27 FEB 09	02 MAR 09	14 MAR 09	17 MAR 09
SS5030	S123-124	14	2d	16 MAR 09	18 MAR 09	31 MAR 09	02 APR 09
SS5040	S124-125	14	2d	01 APR 09	03 APR 09	21 APR 09	23 APR 09
SS5050	S125-132	14	2d	22 APR 09	24 APR 09	09 MAY 09	12 MAY 09
SS5060	S126-128	14	2d	11 MAY 09	13 MAY 09	26 MAY 09	29 MAY 09
SS5070	S127-128	14	2d	27 MAY 09	30 MAY 09	13 JUN 09	16 JUN 09
SS5080	S128-131	14	2d	15 JUN 09	17 JUN 09	30 JUN 09	02 JUL 09
SS5090	S129-130	14	2d	01 JUL 09	03 JUL 09	16 JUL 09	18 JUL 09
SS5100	S130-131	14	2d	17 JUL 09	20 JUL 09	01 AUG 09	04 AUG 09

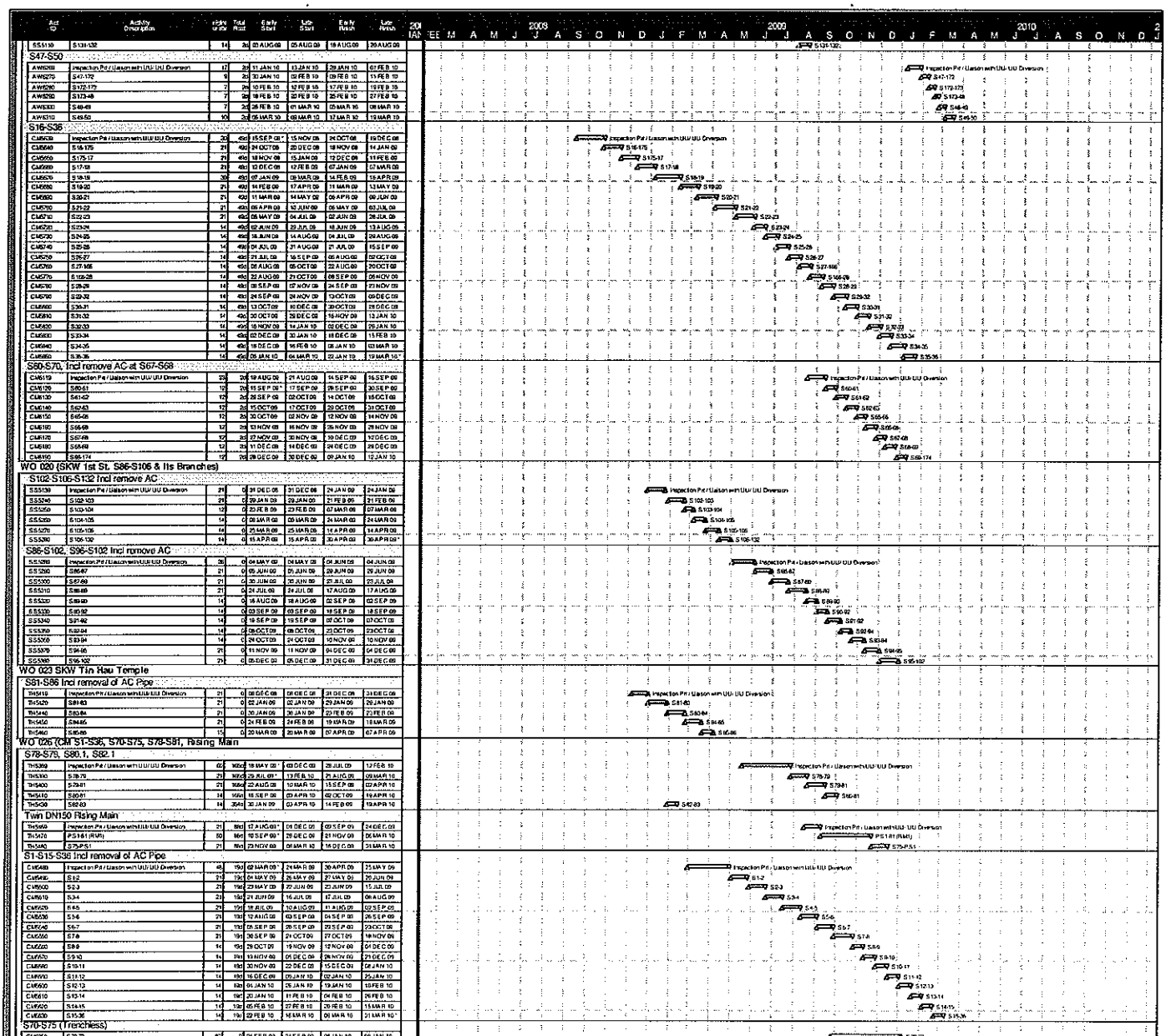


Start Date 31 JAN 08
Finish Date 19 APR 10

Symbol	Legend	Symbol	Legend
△	Early start point	▲	Progress point
▽	Early finish point	△	Critical point
	Early bar	▽	Summary point
	Progress bar	◇	Start milestone point
	Critical bar	◇	Finish milestone point
	Summary bar		

DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works
Project Programme Rev. 6

Date	Revision	Checked	Approved
03 SEP 08	Revision 3	SIL	KC
31 OCT 08	Revision 4	SIL	KYS
24 DEC 08	Revision 5	SIL	KYS
06 JUN 09	Revision 6	SIL	WTH



Act ID	Activity Description	Orig Dur	Total Float	Early Start	Late Start	Early Finish	Late Finish
S5S130	S131-132	14	26	05 AUG 09	25 AUG 09	18 AUG 09	26 AUG 09
S47-S50							
AW6268	Inspection Pit / Liaison with UU/ UU Diversion	17	26	31 JAN 10	03 JAN 10	20 JAN 10	07 FEB 10
AW6275	S47-172	9	26	30 JAN 10	02 FEB 10	09 FEB 10	11 FEB 10
AW6280	S172-173	7	26	10 FEB 10	12 FEB 10	17 FEB 10	19 FEB 10
AW6288	S173-48	7	26	18 FEB 10	22 FEB 10	25 FEB 10	27 FEB 10
AW6293	S48-49	7	26	26 FEB 10	01 MAR 10	03 MAR 10	09 MAR 10
AW6310	S49-50	10	26	05 MAR 10	08 MAR 10	17 MAR 10	19 MAR 10
S16-S36							
CM5639	Inspection Pit / Liaison with UU/ UU Diversion	30	450	15 SEP 08 *	15 NOV 08	26 OCT 08	19 DEC 08
CM5640	S16-175	21	450	24 OCT 08	20 DEC 08	18 NOV 08	14 JAN 09
CM5650	S175-17	21	450	18 NOV 08	15 JAN 09	12 DEC 08	11 FEB 09
CM5660	S17-18	21	450	10 DEC 08	12 FEB 09	07 JAN 09	07 MAR 09
CM5670	S18-19	30	450	07 JAN 09	09 MAR 09	14 FEB 09	19 APR 09
CM5680	S19-20	21	450	14 FEB 09	17 APR 09	11 MAR 09	13 MAY 09
CM5690	S20-21	21	450	11 MAR 09	14 MAY 09	08 APR 09	09 JUN 09
CM5700	S21-22	21	450	08 APR 09	12 JUN 09	06 MAY 09	03 JUL 09
CM5710	S22-23	21	450	06 MAY 09	04 JUL 09	02 JUN 09	28 JUL 09
CM5720	S23-24	14	450	02 JUN 09	23 JUL 09	16 JUN 09	13 AUG 09
CM5730	S24-25	14	450	16 JUN 09	14 AUG 09	04 JUL 09	28 AUG 09
CM5740	S25-26	14	450	04 JUL 09	31 AUG 09	21 JUL 09	15 SEP 09
CM5750	S26-27	14	450	21 JUL 09	16 SEP 09	06 AUG 09	02 OCT 09
CM5760	S27-165	14	450	06 AUG 09	05 OCT 09	20 AUG 09	20 OCT 09
CM5770	S165-28	14	450	20 AUG 09	21 OCT 09	03 SEP 09	06 NOV 09
CM5780	S28-29	14	450	03 SEP 09	07 NOV 09	24 SEP 09	23 NOV 09
CM5790	S29-32	14	450	24 SEP 09	24 NOV 09	12 OCT 09	09 DEC 09
CM5800	S30-31	14	450	13 OCT 09	10 DEC 09	29 OCT 09	26 DEC 09
CM5810	S31-32	14	450	30 OCT 09	26 DEC 09	16 NOV 09	13 JAN 10
CM5820	S32-33	14	450	16 NOV 09	14 JAN 10	02 DEC 09	29 JAN 10
CM5830	S33-34	14	450	02 DEC 09	30 JAN 10	18 DEC 09	15 FEB 10
CM5840	S34-35	14	450	18 DEC 09	16 FEB 10	06 JAN 10	03 MAR 10
CM5850	S35-36	14	450	05 JAN 10	04 MAR 10	22 JAN 10	19 MAR 10 *
S60-S70, Incl remove AC at S67-S68							
CM6170	Inspection Pit / Liaison with UU/ UU Diversion	23	365	19 AUG 09	21 AUG 09	14 SEP 09	16 SEP 09
CM6175	S60-61	12	365	15 SEP 09 *	17 SEP 09	28 SEP 09	30 SEP 09
CM6180	S61-62	12	365	29 SEP 09	01 OCT 09	14 OCT 09	15 OCT 09
CM6140	S62-63	12	365	15 OCT 09	17 OCT 09	29 OCT 09	31 OCT 09
CM6150	S65-66	12	365	30 OCT 09	02 NOV 09	12 NOV 09	14 NOV 09
CM6160	S66-68	12	365	13 NOV 09	16 NOV 09	26 NOV 09	28 NOV 09
CM6170	S67-68	12	365	27 NOV 09	30 NOV 09	09 DEC 09	10 DEC 09
CM6180	S68-69	12	365	11 DEC 09	14 DEC 09	24 DEC 09	29 DEC 09
CM6190	S69-174	12	365	28 DEC 09	30 DEC 09	09 JAN 10	12 JAN 10
WO 020 (SKW 1st St. S86-S106 & Its Branches)							
S102-S105-S132 Incl remove AC							
S5S139	Inspection Pit / Liaison with UU/ UU Diversion	21	0	31 DEC 08	31 DEC 08	29 JAN 09	29 JAN 09
S5S240	S102-103	21	0	29 JAN 09	29 JAN 09	21 FEB 09	21 FEB 09
S5S250	S103-104	12	0	20 FEB 09	23 FEB 09	07 MAR 09	07 MAR 09
S5S260	S104-105	14	0	06 MAR 09	09 MAR 09	24 MAR 09	24 MAR 09
S5S270	S105-106	14	0	25 MAR 09	25 MAR 09	14 APR 09	14 APR 09
S5S280	S106-132	14	0	15 APR 09	15 APR 09	30 APR 09	30 APR 09 *
S86-S102, S96-S102 Incl remove AC							
S5S289	Inspection Pit / Liaison with UU/ UU Diversion	35	0	04 MAY 09	04 MAY 09	08 JUN 09	08 JUN 09
S5S290	S86-87	21	0	05 JUN 09	05 JUN 09	29 JUN 09	29 JUN 09
S5S300	S87-89	21	0	30 JUN 09	30 JUN 09	27 JUL 09	27 JUL 09
S5S310	S88-89	21	0	24 JUL 09	24 JUL 09	17 AUG 09	17 AUG 09
S5S320	S89-90	14	0	16 AUG 09	16 AUG 09	02 SEP 09	02 SEP 09
S5S330	S90-92	14	0	03 SEP 09	03 SEP 09	18 SEP 09	18 SEP 09
S5S340	S91-92	14	0	19 SEP 09	19 SEP 09	07 OCT 09	07 OCT 09
S5S350	S92-94	14	0	08 OCT 09	08 OCT 09	23 OCT 09	23 OCT 09
S5S360	S93-94	14	0	24 OCT 09	24 OCT 09	10 NOV 09	10 NOV 09
S5S370	S94-95	21	0	11 NOV 09	11 NOV 09	04 DEC 09	04 DEC 09
S5S380	S95-102	21	0	05 DEC 09	05 DEC 09	31 DEC 09	31 DEC 09
WO 023 SKW Tin Hau Temple							
S81-S86 Incl removal of AC Pipe							
TH5418	Inspection Pit / Liaison with UU/ UU Diversion	21	0	08 DEC 08	08 DEC 08	31 DEC 08	31 DEC 08
TH5429	S81-83	21	0	02 JAN 09	02 JAN 09	29 JAN 09	29 JAN 09
TH5440	S83-84	21	0	30 JAN 09	30 JAN 09	23 FEB 09	23 FEB 09
TH5450	S84-85	21	0	24 FEB 09	24 FEB 09	19 MAR 09	19 MAR 09
TH5460	S85-86	15	0	20 MAR 09	20 MAR 09	07 APR 09	07 APR 09
WO 026 (CM S1-S36, S70-S75, S78-S81, Rising Main							
S78-S75, S80.1, S82.1							
TH5389	Inspection Pit / Liaison with UU/ UU Diversion	62	162d	18 MAY 09 *	03 DEC 09	28 JUL 09	12 FEB 10
TH5390	S78-79	21	162d	29 JUL 09 *	13 FEB 10	21 AUG 09	09 MAR 10
TH5400	S79-81	21	162d	22 AUG 09 *	10 MAR 10	13 SEP 09	07 APR 10
TH5410	S80-81	14	166d	16 SEP 09	03 APR 10	02 OCT 09	19 APR 10
TH5430	S82-83	14	354d	30 JAN 09	03 APR 10	14 FEB 09	19 APR 10
Twin DN150 Rising Main							
TH5469	Inspection Pit / Liaison with UU/ UU Diversion	21	89d	12 AUG 09 *	01 DEC 09	03 SEP 09	24 DEC 09
TH5470	PS181 (RMR)	50	89d	16 SEP 09 *	29 DEC 09	21 NOV 09	06 MAR 10
TH5480	S75-PS1	21	89d	23 NOV 09	04 MAR 10	16 DEC 09	31 MAR 10
S1-S15-S36 Incl removal of AC Pipe							
CM5480	Inspection Pit / Liaison with UU/ UU Diversion	45	196	03 MAR 09 *	24 MAR 09	30 APR 09	25 MAY 09
CM5490	S1-2	21	196	04 MAY 09	26 MAY 09	27 MAY 09	25 JUN 09
CM5500	S2-3	21	196	29 MAY 09	22 JUN 09	23 JUN 09	15 JUL 09
CM5510	S3-4	21	196	21 JUN 09	16 JUL 09	17 JUL 09	06 AUG 09
CM5520	S4-5	21	196	18 JUL 09	10 AUG 09	11 AUG 09	02 SEP 09
CM5530	S5-6	21	196	12 AUG 09	03 SEP 09	04 SEP 09	26 SEP 09
CM5540	S6-7	21	196	05 SEP 09	26 SEP 09	25 SEP 09	23 OCT 09
CM5550	S7-8	21	196	26 SEP 09	21 OCT 09	27 OCT 09	19 NOV 09
CM5560	S8-9	14	196	29 OCT 09	19 NOV 09	12 NOV 09	04 DEC 09
CM5570	S9-10	14	196	19 NOV 09	05 DEC 09	09 NOV 09	21 DEC 09
CM5580	S10-11	14	196	30 NOV 09	22 DEC 09	15 DEC 09	04 JAN 10
CM5590	S11-12	14	196	16 DEC 09	05 JAN 10	02 JAN 10	25 JAN 10
CM5600	S12-13	14	196	06 JAN 10	25 JAN 10	19 JAN 10	10 FEB 10
CM5610	S13-14	14	196	20 JAN 10	11 FEB 10	04 FEB 10	24 FEB 10
CM5620	S14-15	14	196	05 FEB 10	27 FEB 10	18 FEB 10	13 MAR 10
CM5630	S15-36	14	196	22 FEB 10	16 MAR 10	06 MAR 10	31 MAR 10 *
S70-S75 (Trenchless)							
CM6250	S70-73	60	0	24 SEP 09	24 SEP 09	08 JAN 10	08 JAN 10
CM6260	S73-75	78	0	09 JAN 10	09 JAN 10	31 MAR 10	31 MAR 10

Start Date 31 JAN 09
Finish Date 19 APR 10

Page 15A

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

DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works
Project Programme Rev. 6

Date	Revision	Checked	Approved
03 SEP 09	Revision 3	SIL	KC
31 OCT 09	Revision 4	SIL	KYS
24 DEC 09	Revision 5	SIL	KYS
06 JUN 09	Revision 6	SIL	WTH

Appendix F

Summary of Implementation Status

of

Mitigation Measures during Site Inspection

Environmental Mitigation Implementation Schedule

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Air Quality					
▪ Stockpiles of imported material kept on site should be contained within hoarding, dampened and / or covered during dry and windy weather.	All areas	√			
▪ Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses.	All areas	√			
▪ Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like.	All areas	√			
▪ Any vehicle used for moving sands, aggregates and construction waste should have properly fitting side and tail boards. Materials should not be loaded to a level higher than the side and tail boards, and should be covered by a clean tarpaulin.	All areas		√		
▪ Unpaved areas should be watered regularly to avoid dust generation.	Site Egress	√			
▪ The enclosures should be around the main dust-generating activities.	All areas		√		
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	All areas	√			
▪ Open burning should be prohibited.	All areas	√			
Noise Impact					
▪ Quite powered mechanical equipment (PME) or method should be used.	All areas	√			
▪ The number plant should be restricted (1 item for each type of plant).	All areas	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	All areas	√			
▪ Mobile plant, if any, should be sited as far away from NSRs as possible.	All areas	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	All areas	√			
▪ Plant known to emit noise strongly should be orientated so that the noise is directed away from nearby NSRs.	All areas	√			
▪ The constructions works should be scheduled to minimize noise nuisance.	All areas	√			
▪ Air compressors and hand held breakers should have noise labels.	All areas	√			
▪ Compressors and generators should operate with door closed.	All areas	√			
Water Quality					
General Construction Works					
▪ Debris and rubbish generated on-site should be collected, handled and disposed of properly to avoid entering the nearby coastal water and stormwater drains.	All areas		√		
▪ All fuel tanks and storage areas should be provided with locks and be sited on sealed area, within bunds of a capacity equal to 110% of the storage capacity of the largest tank.	All areas	√			
▪ Open drainage channels and culverts near the works areas should be covered to block the entrance of large debris and refuse.	All areas	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Waste Management					
General Site Wastes					
• Appropriate measures, such as transporting wastes in enclosed containers, should be taken to minimize windblown litter and dust to nearby environment.	All areas	√			
• Sufficient waste disposal points and regular waste collection for disposal should be provided.	All areas	√			
• A collection area for construction site waste should be provided where waste can be stored prior to removal form site.	All areas	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	All areas	√			
• Records of the quantities of waste generated, recycled and disposed should be kept and maintained.	All areas	√			
• Different types of waste should be segregated and stored in different container, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.	All areas	√			
Chemical Wastes					
• After use, chemical waste should be handled according to the Code of Practice on the Package, Labelling and Storage of Chemical Wastes.	All areas	√			
• Any unused chemicals or those with remaining functional capacity should be recycled.	All areas	√			
• Waste should be properly stored on site within suitably designed containers and should be collected by an approved licensed waste collectors for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation under the Waste Disposal Ordnance.	All areas	√			
• Any service shop and minor maintenance facilities should be located on hard standing within a bunded area, and sumps and oil interceptors should be provided.	All areas	√			
• Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should be undertaken within the designated areas equipped control these discharges.	All areas	√			
Construction and Demolition (C&D) Wastes					
• C&D waste should be separated on site before disposal.	All areas	√			
• Inert material, such as concrete and rubble, should be re-used on site.	All areas	√			
• Steel and other metals should be separated for re-use and / or recycling prior to disposal of C&D material.	All areas	√			
Ecological Impact					
• Labelling and fencing of the uncommon tree species.	All areas	√			
• Avoidance of use of woodland habitats as Works Area, in particular where trees located.	All areas	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Landscape and Visual Impact					
• Existing trees should be retained.	All areas	√			
• Damage to vegetation should be minimized by close coordination and on site alignment adjusted of rising main and gravity sewer pipelines.	All areas	√			
• Short excavation and immediate backfilling section upon completion of works should be performed to reduce active site area.	All areas	√			
Site Practice					
• 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.	All areas	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	All areas	√			
• All generators, fuel and oil storage are within bundle areas.	All areas		√		
• Oil leakage from machinery, vehicle and plant should be prevented.	All areas	√			
• The Environmental Permit should be displaced conspicuously on site.	All areas	√			

Appendix G

Vegetation Survey Report

and

Photographic Records of the Uncommon Tree Species

Kaden 基利

Our Ref.: K0801/01.01.00.00/2303/L
Date: 7 August 2009

Scott Wilson CDM Joint Venture
38/F, Metroplaza Tower 1
223 Hing Fong Road
Kwai Fong, N.T.
Hong Kong

Attn: Ir. Jan J. Jones

By Hand

Dear Sir,

Drainage Services Department
Contract No. DC/2007/18
Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works
V.O. No. 016 – Vegetation and Plant Species Survey Report

We refer to our letter ref. K0801/01.01.00.00/1876/L dated 2 June 2009 and the tele-conversations between your Ms. Fairy Wang (ARE) and the undersigned on 24 July 09 regarding the comments from EPD on the VEP application.

Enclosed please find herewith the photographic records showing the whole plant and a close-up with numbering for each plant and revised figure with correct locations for your action.

Thank you for your kind attention.

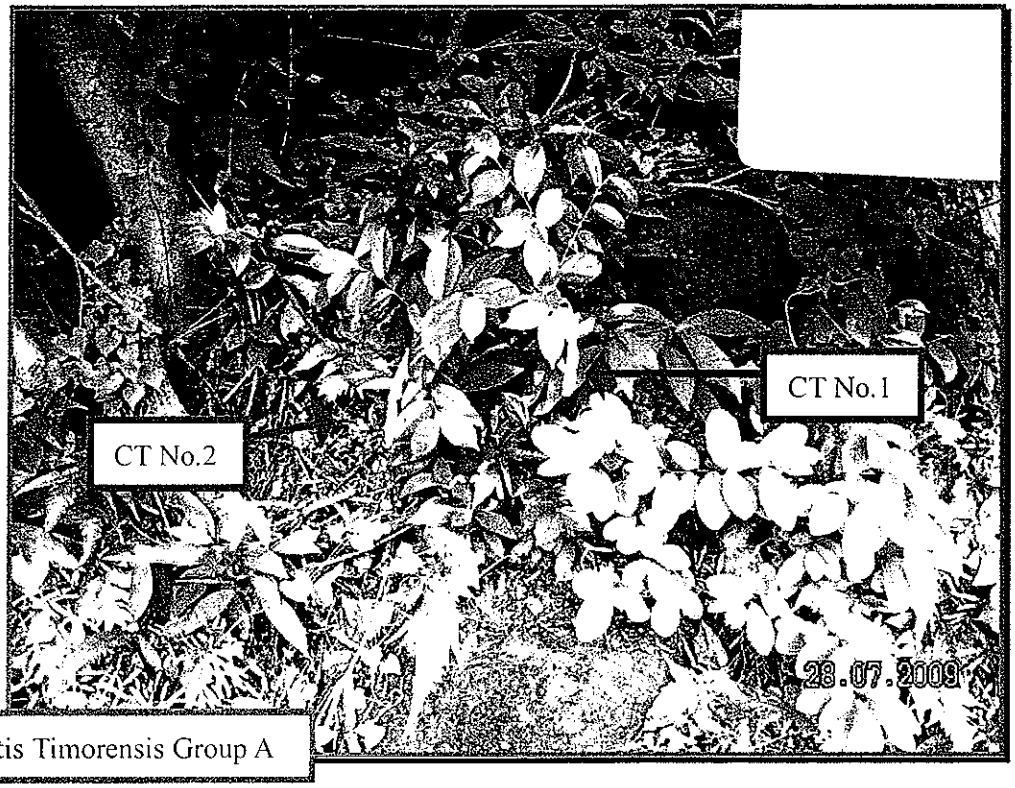
Yours faithfully,
For and on behalf of
Kaden Construction Limited

Stephen Leung
Site Agent

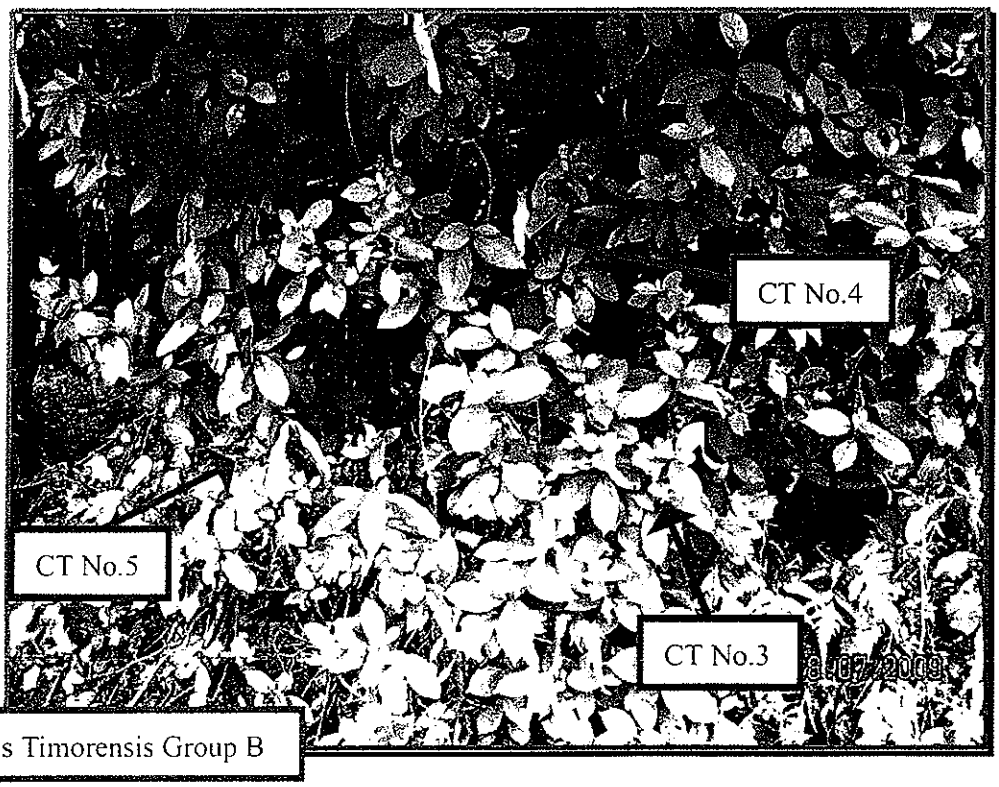
StL/pys

Encl.

c.c. IEC Attn: Mr. Rodney Ip (By Fax only: 2428 9922)
ETS Attn: Mr. C. L. Lau (By Fax only: 2695 3944)
Kaden – CFS/JC/IS



Celtis Timorensis Group A



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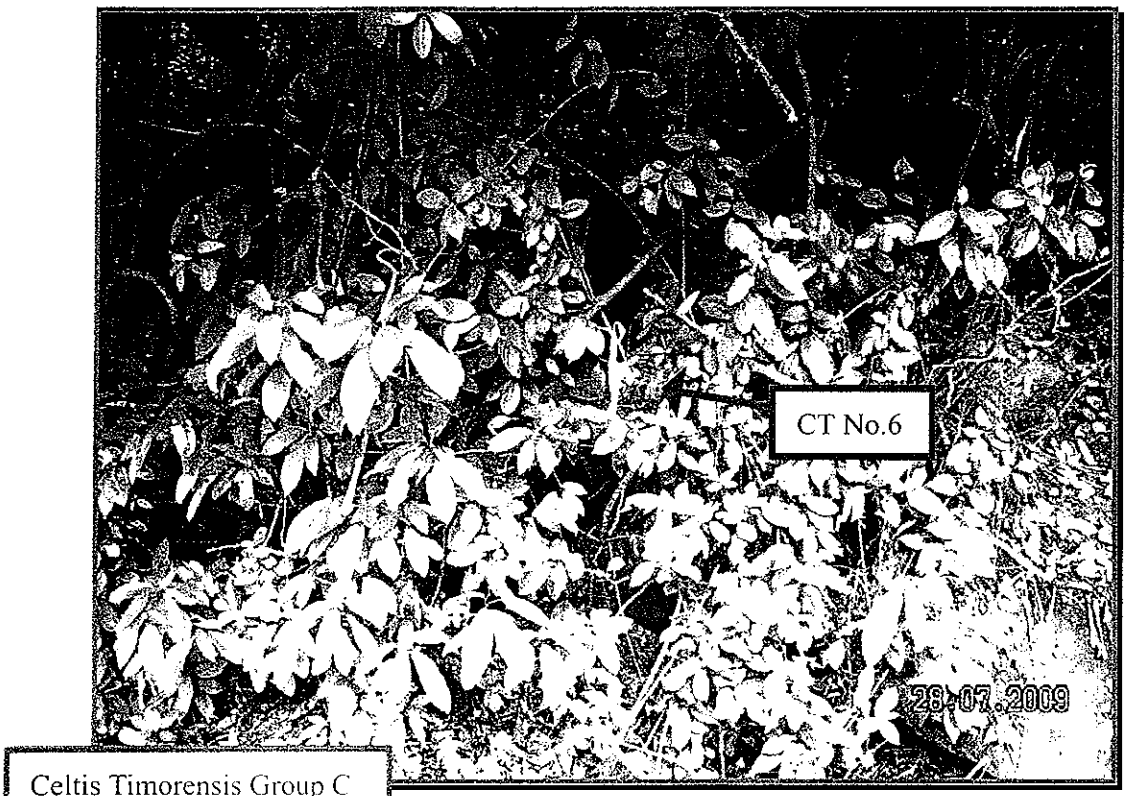

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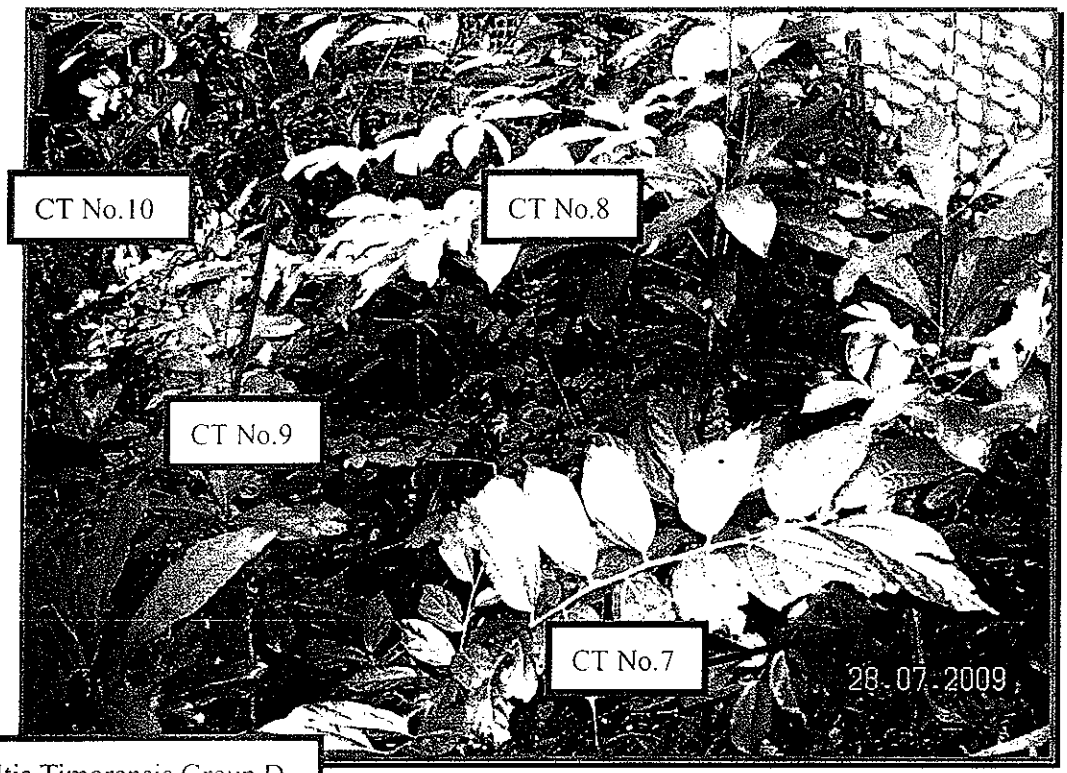
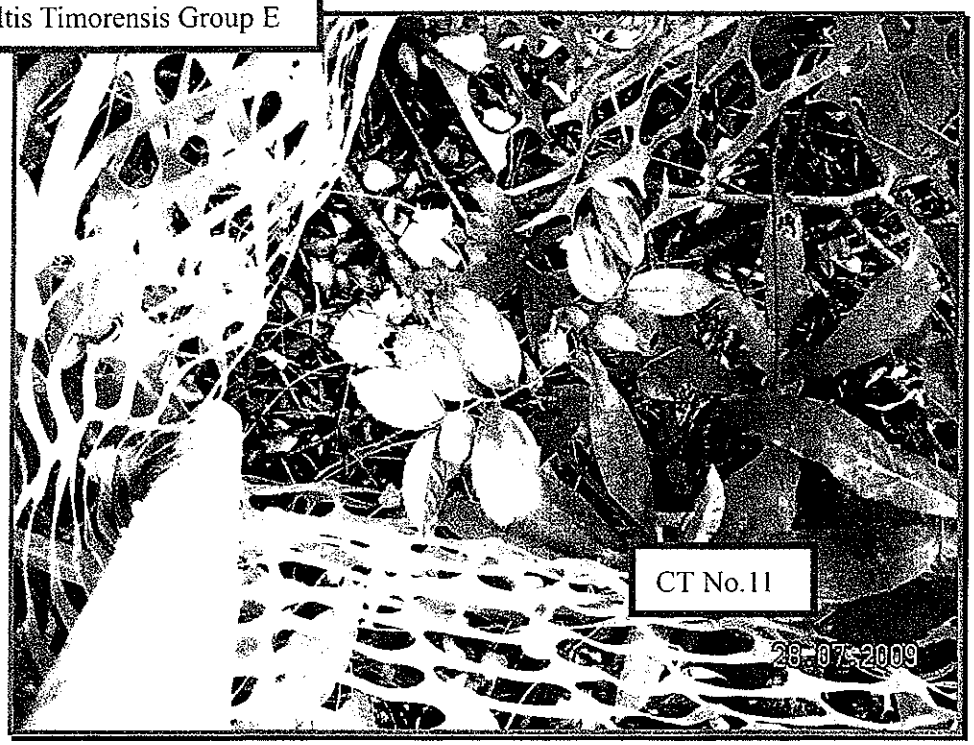
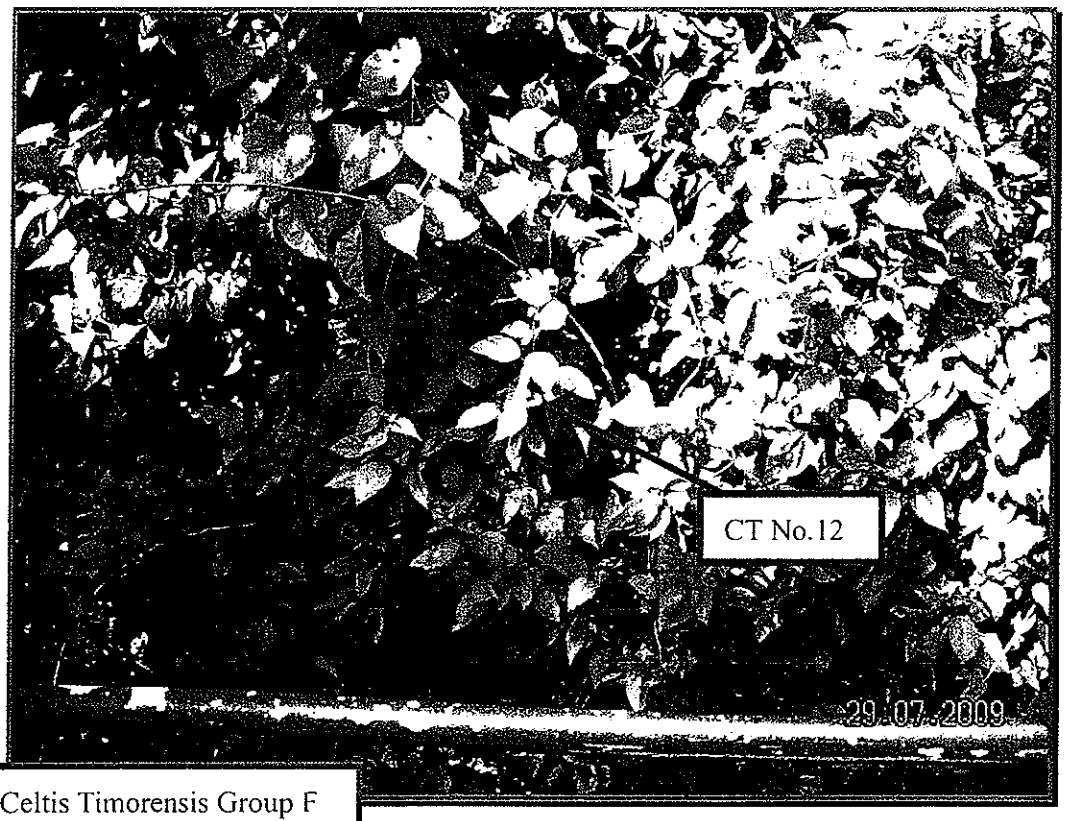


Celtis Timorensis Group D

Celtis Timorensis Group E



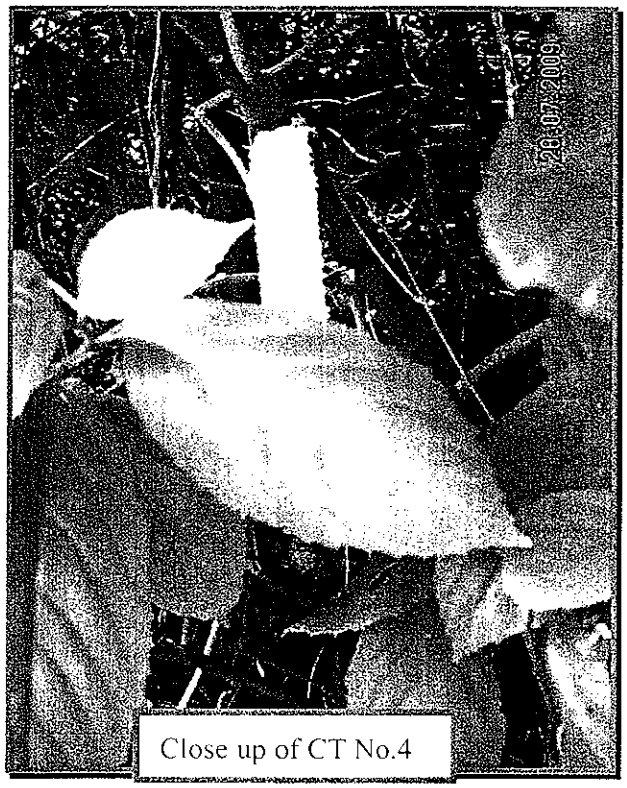


Celtis Timorensis Group F

Close up of CT No.1

Close up of CT No.2

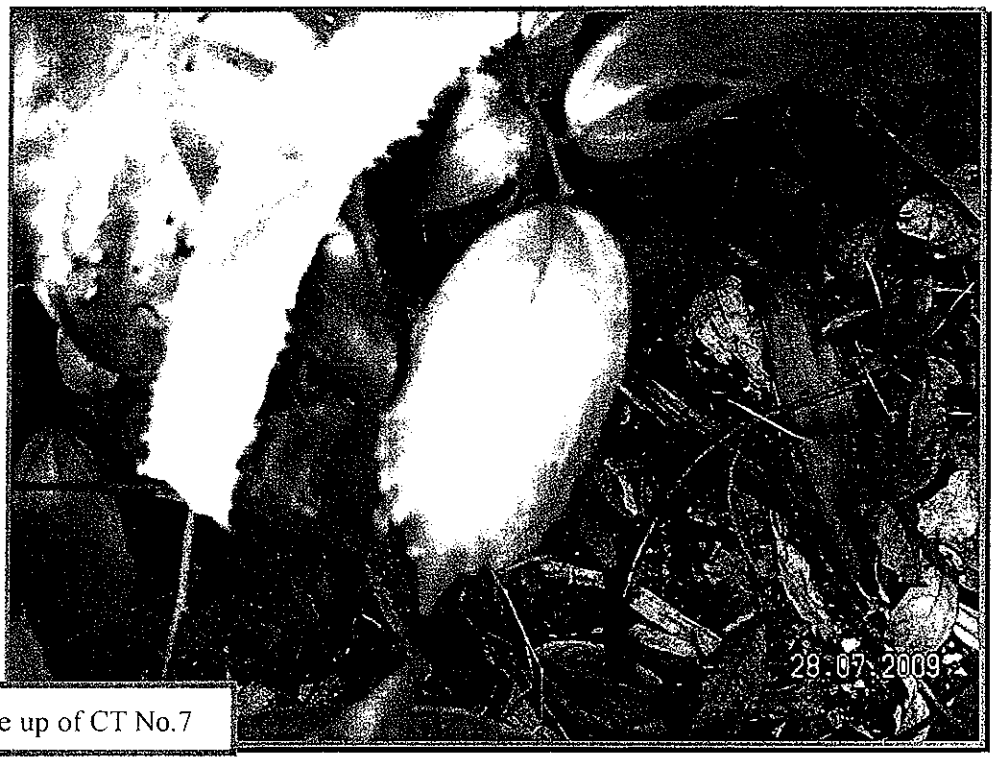
Close up of CT No.3



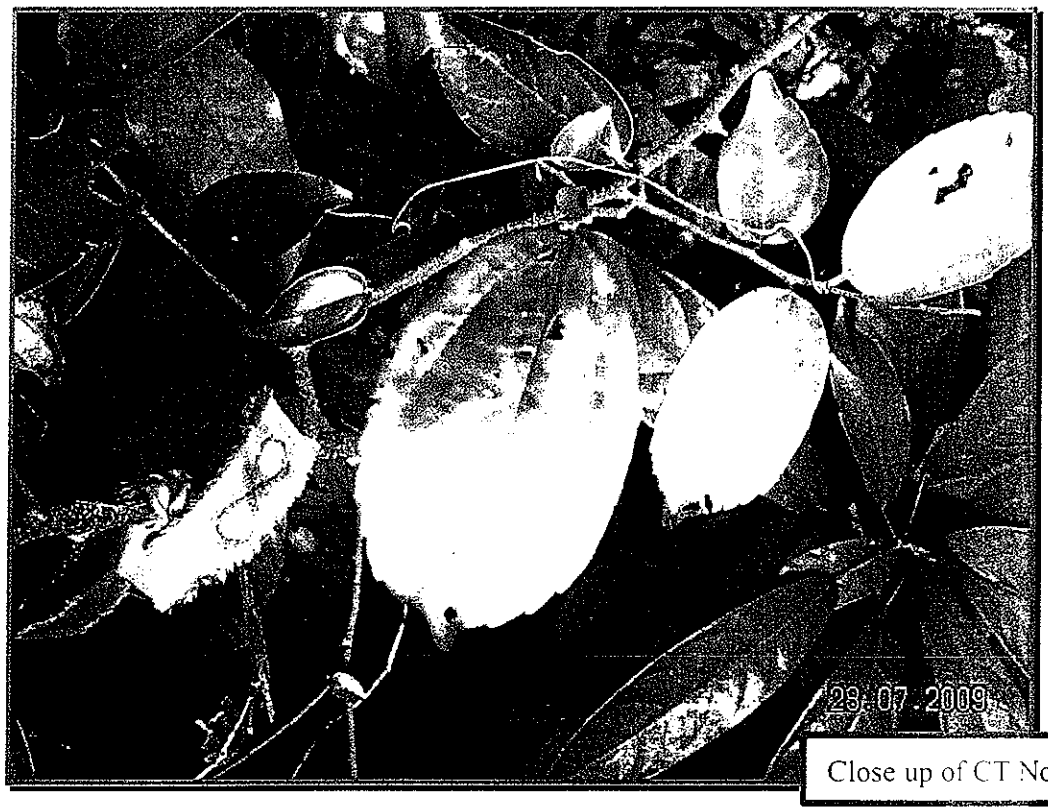
Close up of CT No.4

Close up of CT No.5

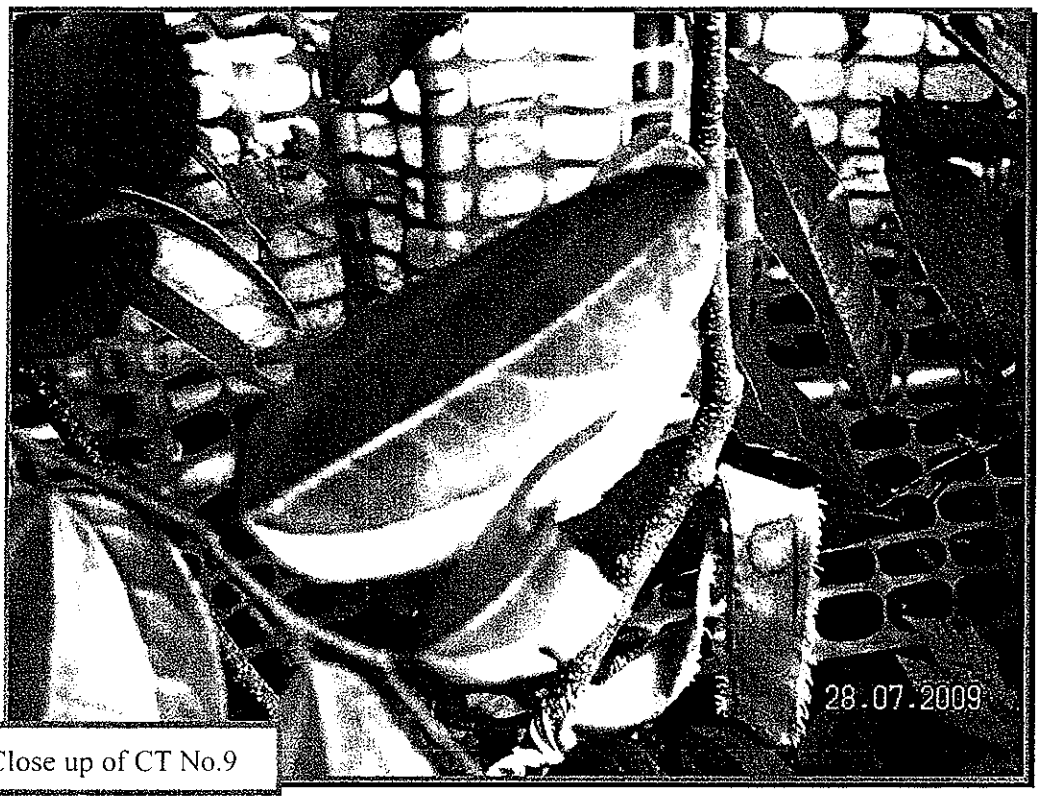
Close up of CT No.6



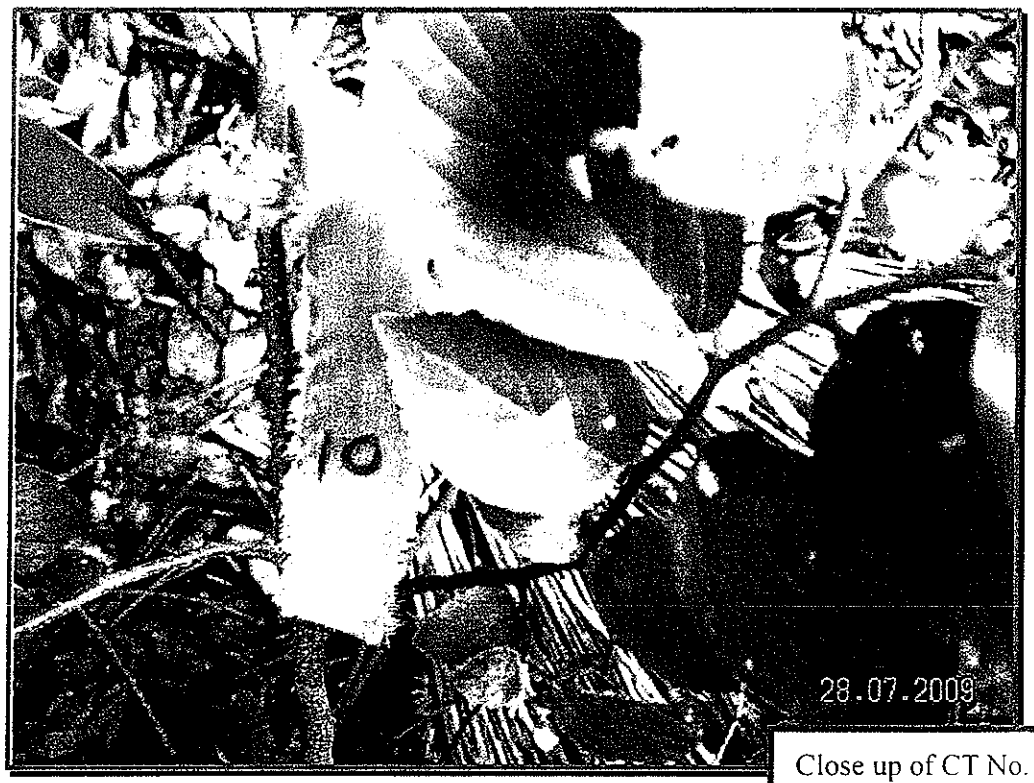
Close up of CT No.7



Close up of CT No.8



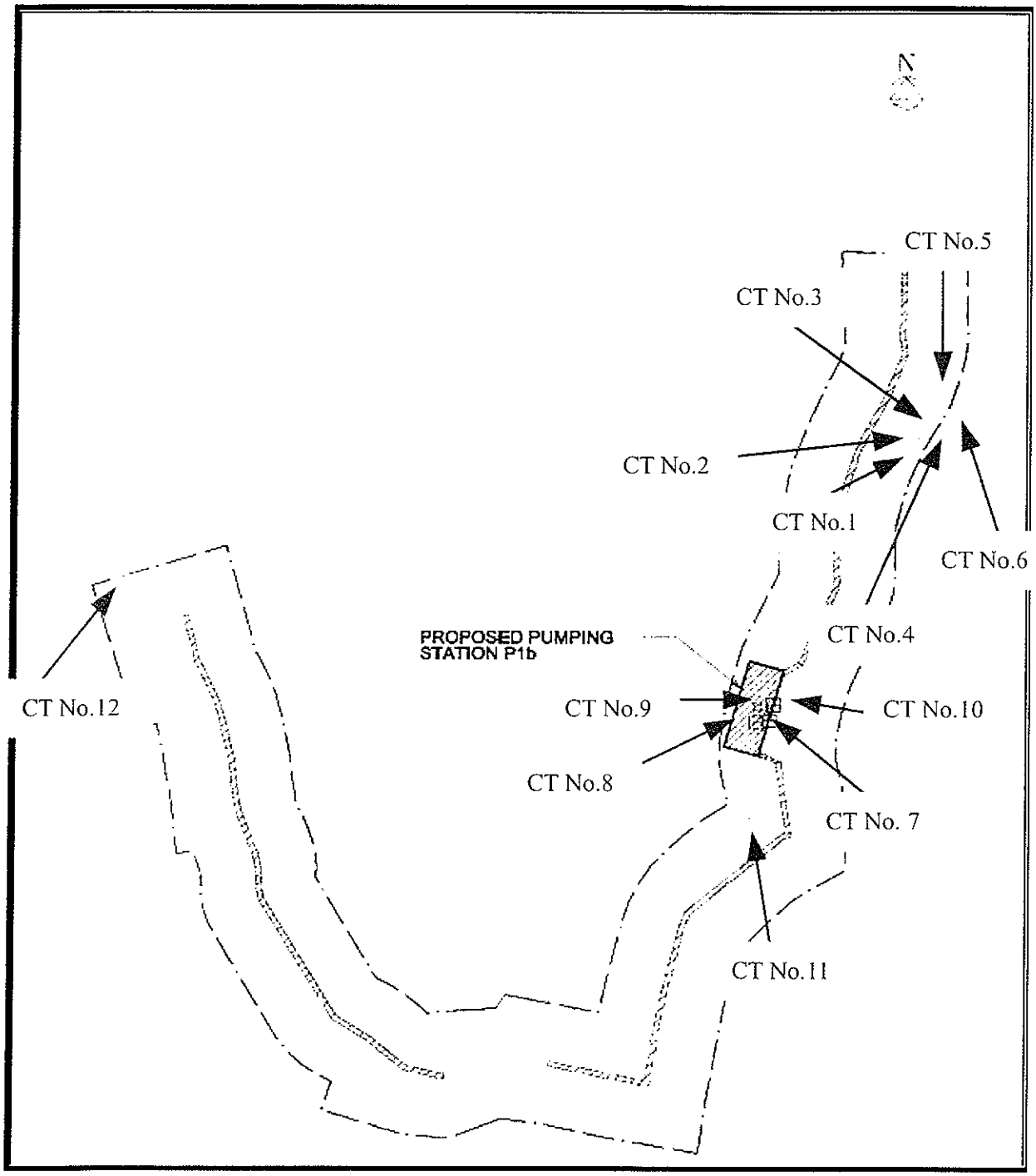
Close up of CT No.9



Close up of CT No.10

Close up of CT No.11

Close up of CT No.12



LEGEND

- CELTIS TIMORENSIS TO BE LABELLED, FENCED AND PROTECTED AND TO BE TRANSPLANTED IN ADVANCE OF PUMPING STATION CONSTRUCTION
- CELTIS TIMORENSIS TO BE LABELLED, FENCED AND PROTECTED
- VEGETATION SURVEY BOUNDARY (10m OFFSET FROM SEWERAGE ALIGNMENT)
- PROPOSED SEWERAGE ALIGNMENT AND PUMPING STATION AREAS

Appendix H

Draft Report of

Archaeological Watching Brief

at Chung Mei, Sok Kwu Wan

DSD Contract No. DC/2007/18
Yung Shue Wan & Sok Kwu Wan Village Sewerage, Stage 1 Works

Archaeological Watching Brief at Chung Mei, Sok Kwu Wan

Draft Report

Prepared for Kaden Construction Ltd.
By Archaeological Assessments Ltd.

July 2009

List of Contents

List of Figures

List of Plates

1. Non-Technical Summary

As part of the above captioned project, an archaeological watching brief was conducted in Chung Mei, Sok Kwu Wan on 1st September 2008 and 12th June 2009 (Figure 1). The monitoring works were required as a result of previous findings of kiln-oven debris and Tang Dynasty pottery in the small valley to the west (AAL 2003).

The alignment in question ran across the west facing slope of a steep, wooded hillside – the southern half following an existing concrete-surfaced footpath, while the northern half crossed the natural slope. The contractor's groundworks consisted of a c.0.6m wide by c.1.2m deep machine-excavated pipe trench, which was monitored over a total length of approximately 50m.

No cultural layers were found and there was just one surface find of undiagnostic pottery.

由於2003年進行的考古調查在西面的小山谷發現了一些窯具及唐代陶片，因此，是次污水管敷設工程須在索罟灣涌尾進行考古監察。索罟灣涌尾之考古監察分別在2008年9月1日及2009年6月12日進行。

是次涉及之污水管敷設路線是源著西向、樹木茂盛之陡坡而建。南半部路線依現有之石屎小徑而行;
而北半部路線則繞過自然山坡。是次考古監察範圍包括：承建商用機挖掘約0.6米闊、1.2米深之地溝，而監察範圍長約50米。

是次考古監察並未發現文化層，只在地面採集到一片無斷定年份之陶片。

2. Introduction

As part of the Drainage Services Department's Contract No. DC/2007/18 – Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works – it was required that an archaeological watching brief be undertaken in the village of Chung Mei, which lies approximately 0.5km south of Sok Kwu Wan on the eastern side of Lamma Island (Figure 1). The archaeological monitoring works were required following findings of kiln-oven debris and Tang Dynasty pottery in an adjoining area during an earlier archaeological survey (AAL 2003). The watching brief works on the approximately 50m long alignment were conducted in two segments, the first on 1st September 2008 and the second on 12th June 2009 (Figure 2).

3. Project Aims

The aim of this project was to ensure that any archaeological remains encountered during construction works within the study area alignment were properly identified, recorded and recovered whilst, at the same time, minimising delays to the engineering schedule.

The objectives of the study were as follows:

- To implement a monitoring strategy designed to fulfil the above aim;
- To process and analyse the results in light of previous findings;
- To report on the results of the fieldwork; and
- If required, to recommend mitigation measures.

4. Topographical, Geological, Historical and Archaeological background

4.1 Topography

The Chung Mei area comprises a small flat valley surrounded by steep wooded hillsides to the west, south and east, the latter reaching up to the peak of Ling Kok Shan at 250m PD. To the north, the ground falls gradually away to the sandy shallows of Picnic Bay (Sok Kwu Wan). The sewer alignment in question traversed the lower west facing hill slope overlooking the small valley mentioned above. The c.50m long alignment ran downhill from manhole (MH) S50 (surface level 10.06mPD) at its southern end to manhole S54 (surface level 5.75mPD) at its northern end.

4.2 Geology

In the following short discussion, the codes in brackets are those used for the various rocks/sediments depicted on the geological map (Figure 3). The solid geology at Chung Mei consists of fine to medium grained granite (gfm) with east-west running feldsparphyric rhyolite (rf) dykes. In terms of drift geology, the small valley of Chung Mei, to the west of and below the study alignment, is filled with alluvium (Qa), while debris flow deposits (Qd) are recorded in a narrow valley to the northeast of the study area (Hong Kong Government 1987). The monitored alignment was located as shown on Figure 3, crossing the western edge of the granite bedrock close to where sank beneath the alluvial fill of the valley bottom.

4.3 History

According to Hase (2002, 7), although the sheltered anchorage at Sok Kwu Wan was used by generations of boat-people, there were just seven residents on land in 1911 and it was not until the 1950s and 1960s that the settlement expanded to the landward side. The few houses dotted across the hillside at Chung Mei appear to be later 20th century in date.

4.4 Archaeology

The one previous campaign of archaeological fieldwork in the Chung Mei area was centred on the aforementioned small alluvium-filled valley just below the present study area. Eight 2x2m test pits were excavated and two of their number (TP1 and TP2) revealed evidence for historical kiln-oven debris and Tang Dynasty pottery, whilst a lower layer produced a single sherd of Bronze Age hard geometric pottery (AAL 2003).

5. Methodology

The watching brief was in general conducted following the specification as set out in Section 11.1, but further details of the field implementation are provided below. As previously mentioned, the watching brief on the c.50m long alignment was conducted in two segments to fit in with the contractor's work programme – the lower segment first spanning MH S54 and S52, followed by the uphill segment from MH S52 and up to and including MH S50 (see Figure 2). Between MH S54 and S52 the trench was machine excavated forming a c.0.60m wide square-sectioned slot down to between 1-1.2m below the modern surface when measured at the downhill side of the trench and 2m+ on the uphill side. A sketch profile in the environs of MH S53, where the trench was locally stepped to avoid a lighting cable, is shown in Figure 4. At the southern end of the downhill half of the alignment on the site of MH S52, a locally deeper area was excavated to approximately 2.4m below surface, which further confirmed the depth of the completely decomposed granite (CDG) beneath the alignment. Between MH S52 and S50 the trench followed the existing concrete raft-surfaced footpath, the construction of which had necessitated the terracing of the hillside. Here, the trench was machine excavated to form a c.0.60 wide slot with sides c.1.2m deep (when measured from the modern footpath surface). Given that the alignment between MH S54 and S52 was off the main footpath, it was possible to excavate that length as one continuous open cut. In contrast, the length between MH S52 and S50 effectively closed the footpath in that area for the duration of the works, and the client therefore requested that the trench be dug, monitored and recorded, and then backfilled. During the monitoring works a full written, video and photographic record was taken, which will form the core of the project archive.

6. Results

6.1 Introduction

The results of the watching brief are presented in two sub-sections: one for the length of trench excavated in September 2008 (MH S54 to S52), and the other for the length excavated in June 2009 (MH S52 to S50). For each length of alignment, the sequence of deposits is introduced and then the various layers are interpreted with reference to any finds recovered.

In the text below, the following conventions should have been used: the alphanumeric codes used in deposit descriptions are taken from the Munsell system of soil colour charts (Gretagmacbeth 2000) and deposit depths are maximum values. During the discussion below reference should be made to the following illustrations: Figures 2 and 4, which respectively show the overall alignment and sketch section; Figures 5 & 6 showing the surveyors' plans of the watching brief alignment; Plates 1 and 2 respectively offering pre-excavation overviews of the alignment between MH S54 and MH S52 and between MH S51A to MH S50; and Plate 3 showing a post-excavation overview of the MH S54 to S52 alignment. NB: no post-excavation overview of the MH S51A to S50 alignment is available as the trench was excavated, recorded and immediately backfilled (but see photographs recording this process below).

6.2 Alignment between MH S54 and S52

The excavation of the down-slope half of the sewer trench revealed a simple sequence of three naturally-formed deposits (see Plates 4-6), the lowest of which was a 0.20-0.30m thick band reddish yellow (7.5YR 6/8) clayey gravel (**103**), which extended beyond the 1.2m below surface general limit of excavation (l.o.e.) and, in the 2.4m deep sondage excavated at MH S52, was shown to be at least 1.5m thick and continuing beyond the sondage l.o.e. Over 103 there was a 0.70-0.80m thick layer of strong brown (7.5YR 5/6) gravelly clay (**102**), which was sealed by an approximately 0.1m thick greyish brown (10YR 5/2) slightly sandy, clayey silt (**101**). A modern electricity cable trench was noted running along the eastern side of the sewer trench, but was not allocated a context number.

The lower two deposits were completely sterile and can be interpreted as *in situ* decaying granite (103), overlain by an associated clay-rich layer (102), which had all the appearances of mass-transported decayed granite (slope deposits). Sealing the above granite-derived layers was a naturally-accumulating forest soil (101). No cultural horizons/deposits were identified, but one undiagnostic sherd of village ware pottery was recovered from the surface of 101 (see Plate 7).

6.3 Alignment between MH S52 and S50

The excavation of the up-slope half of the sewer trench alignment also revealed a sequence of naturally-formed deposits, which exhibited some variation moving downhill from south to north.

Broadly between MHs S50 and S51, the sequence was as follows: a lower layer of c.0.40m thick (at l.o.e.) strong brown (7.5YR 5/6) slightly gravelly clay (**204**), overlain by a c.0.80m thick layer of reddish yellow (7.5YR 6/8) very gravelly clay (**203**), which was then sealed by a thin raft of concrete forming the temporary path surface (**201**) – see Plates 8-10.

Between MH S51 and S52 – in the environs of MH S51A, the sequence was as follows: c.0.60m thick (at l.o.e.) strong brown (7.5YR 5/6) slightly gravelly clay (**204**); overlain by a c.0.50m thick layer of reddish yellow (7.5YR 6/8) very gravelly clay (**203**); which was covered by an approximately 0.1m thick greyish brown (10YR 5/2) slightly sandy, clayey silt (**202**), which was in turn sealed by the concrete raft surfacing of the footpath (**201**) – see Plates 11 and 12. A modern water pipe was noted running along the eastern side of the sewer trench and an electricity cable along the west, but neither was allocated a context number.

The lower two deposits (204 & 203) were completely sterile and can be interpreted as mass-transported decayed granite, with clay-rich layer 204 perhaps reflecting water-borne finer material and layer 203 a more gravelly debris flow-type component. Layer 202 can be interpreted as a thin forest soil equivalent to 101 above. On the upper portion of the alignment, between MH S50 and S51, Layer 202 had apparently been removed during levelling works for the path. No finds were recovered and no cultural horizons/deposits were therefore identified.

7. Conclusions

In summary, it can be concluded that the steep lower hill slope area traversed by the MH S50 to MH S54 sewer trench at Chung Mei has seen little or no human activity prior to the 20th century and, in contrast to the valley to the west, can be considered to have no archaeological potential.

8. References

AAL 2003 *Agreement No. CE 20/96 Outlying Islands Sewerage Stage 1 Phase II Package J – Sok Kwu Wan Sewage Collection, Treatment & Disposal Facilities, Archaeological Investigation.* Unpublished excavation report.

Gretagmacbeth 2000 *Munsell Soil Colour Charts*. Gretagmacbeth: New Windsor, NY.

9. Supporting Illustrations

9.1 Figures

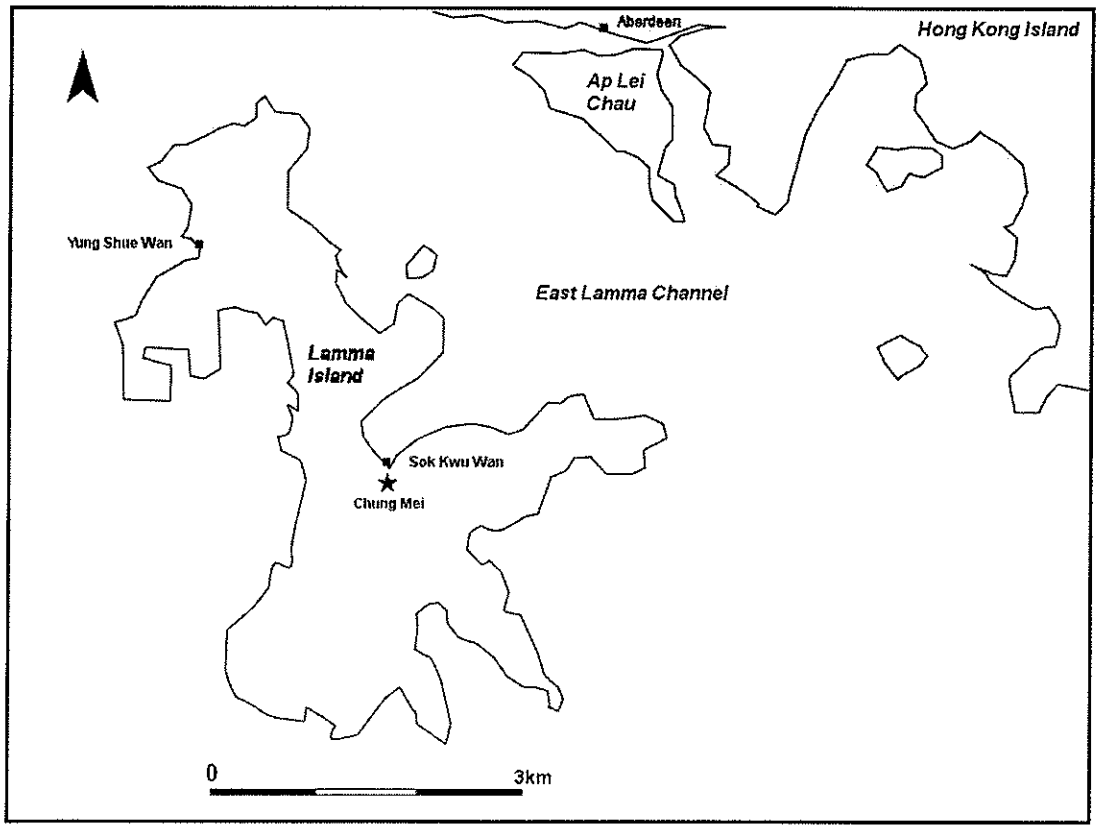


Figure 1: Study Area location – Chung Mei site marked with star

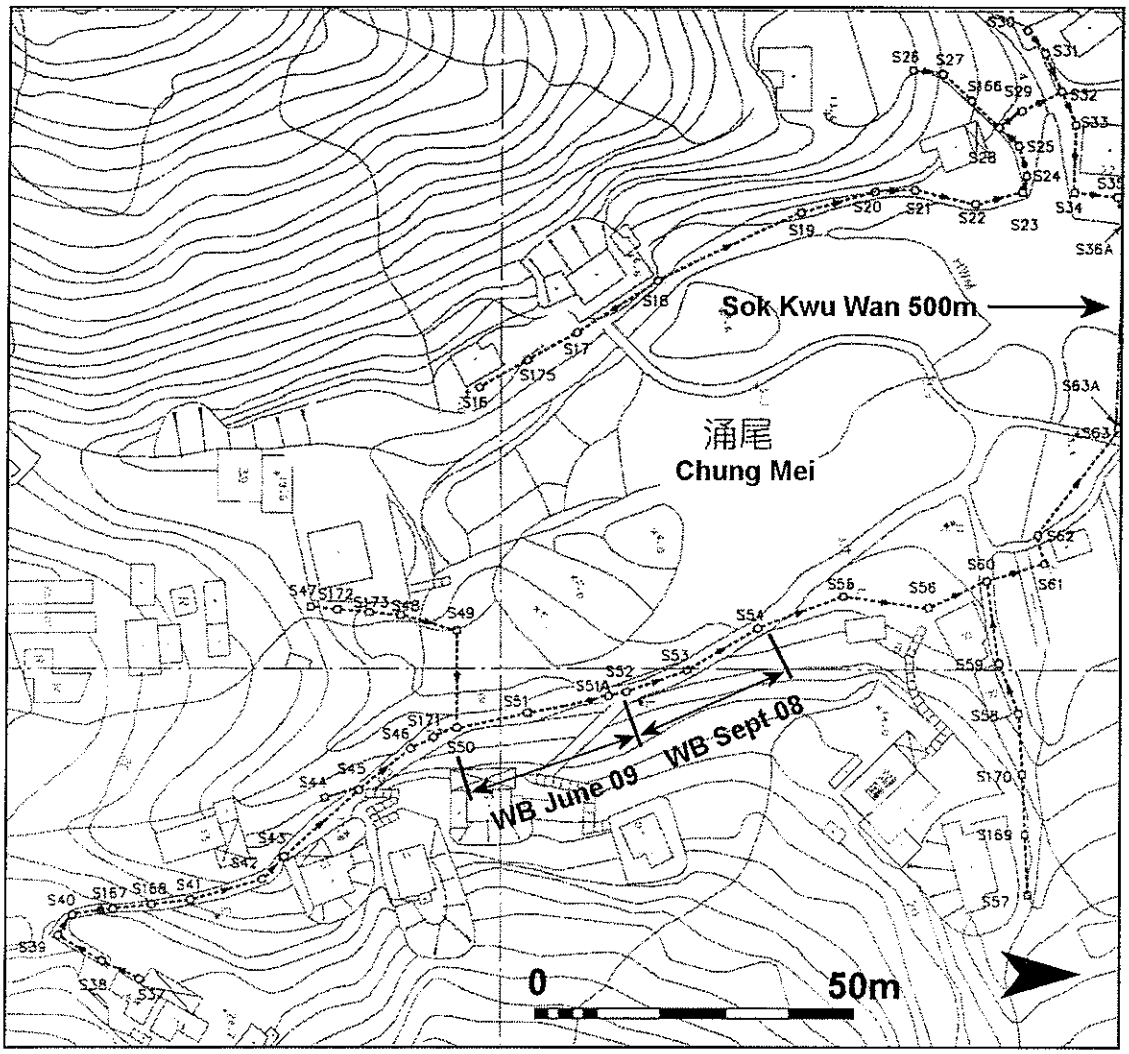


Figure 2: Plan showing location of sewer trench alignment at Chung Mei, with September 2008 and June 2009 watching brief areas highlighted

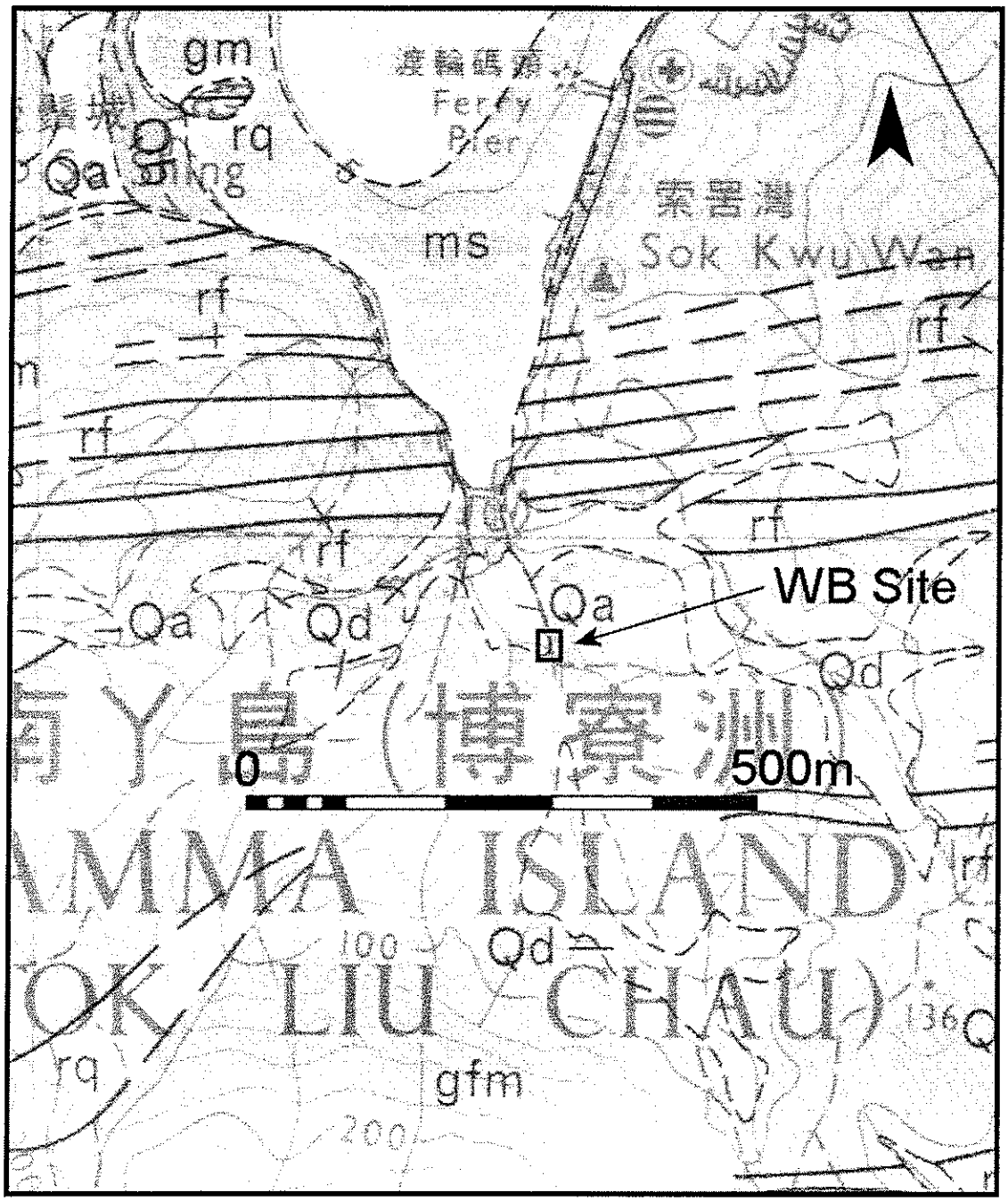


Figure 3: Geology of Study Area – alignment followed western edge of granite bedrock

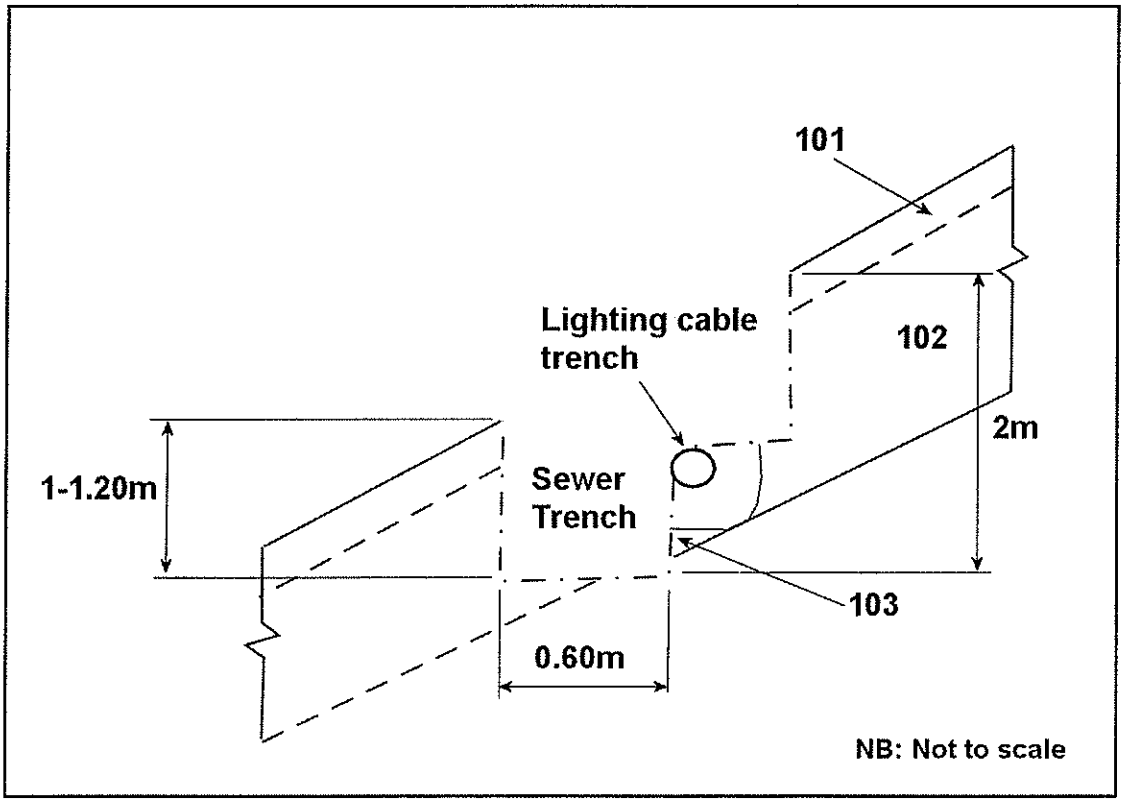


Figure 4: Transverse sketch section of sewer trench in environs of MH S53 – looking north

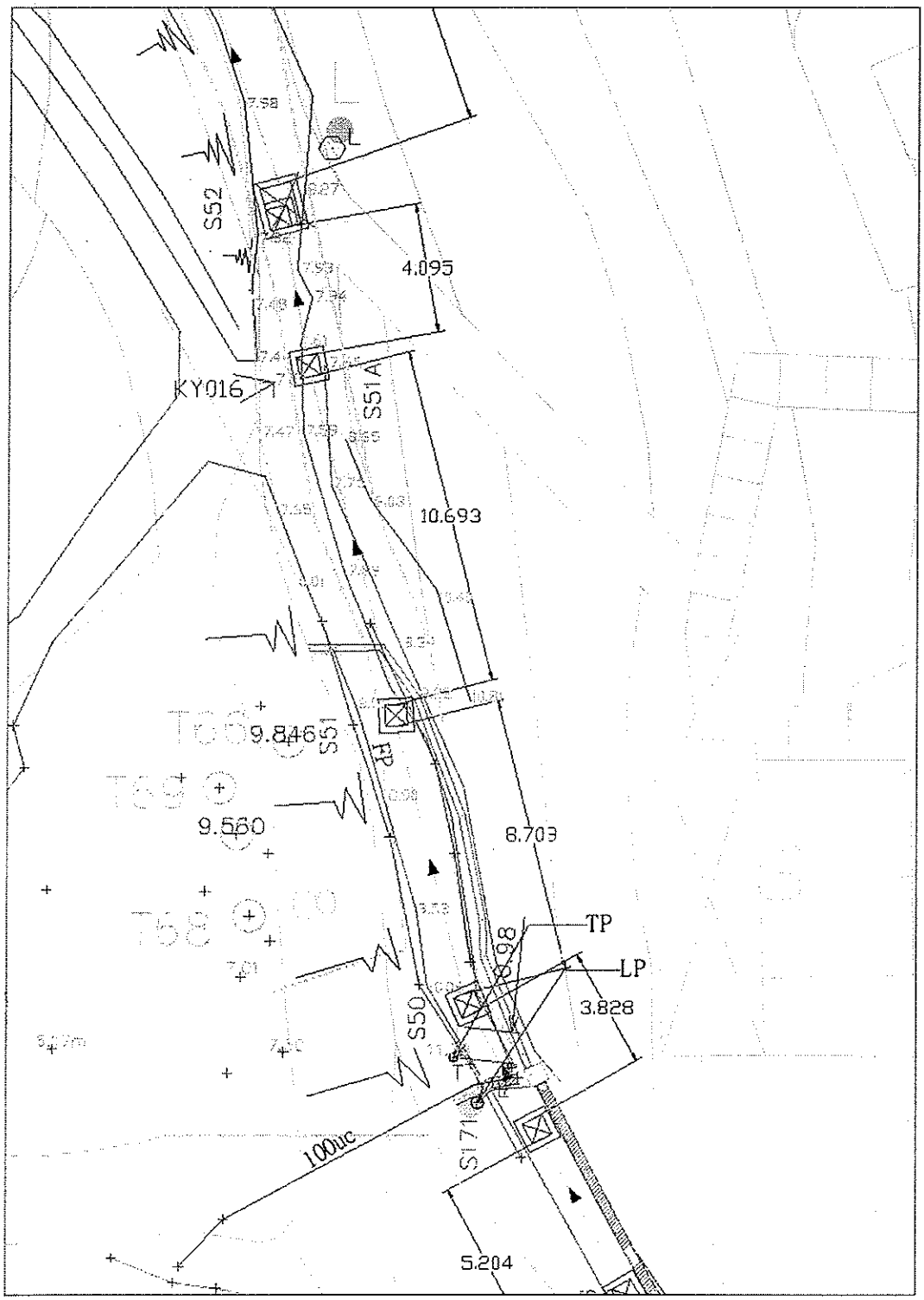


Figure 5: Surveyors' plan of the MH S50 to S52 alignment (kindly supplied by Kaden Engineering Ltd)

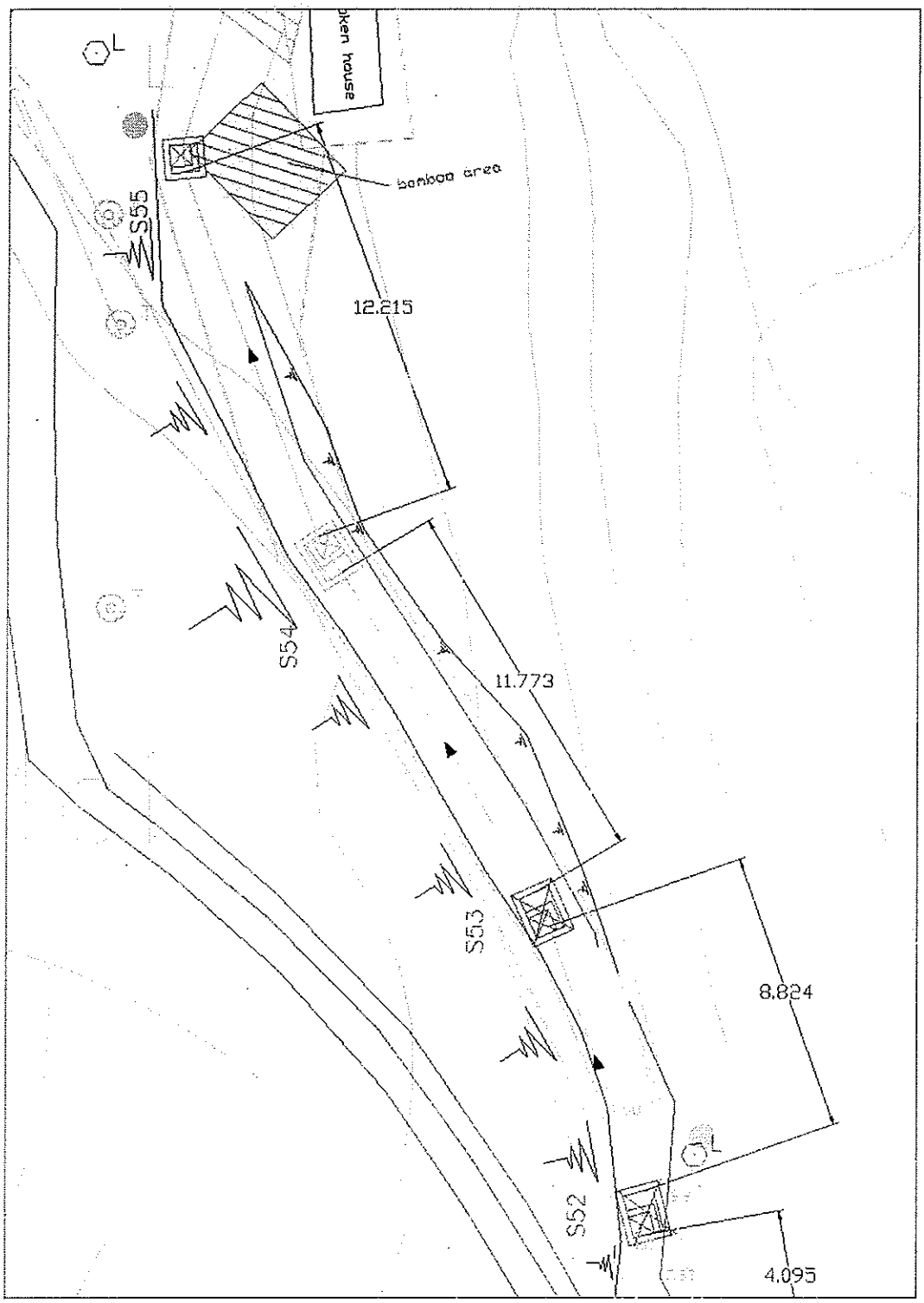


Figure 6: Surveyors' plan of the MH S52 to S54 alignment (kindly supplied by Kaden Engineering Ltd)

9.2 Plates

Plate 1: Pre-excavation view of the alignment between MHs S52 and S54 – looking north

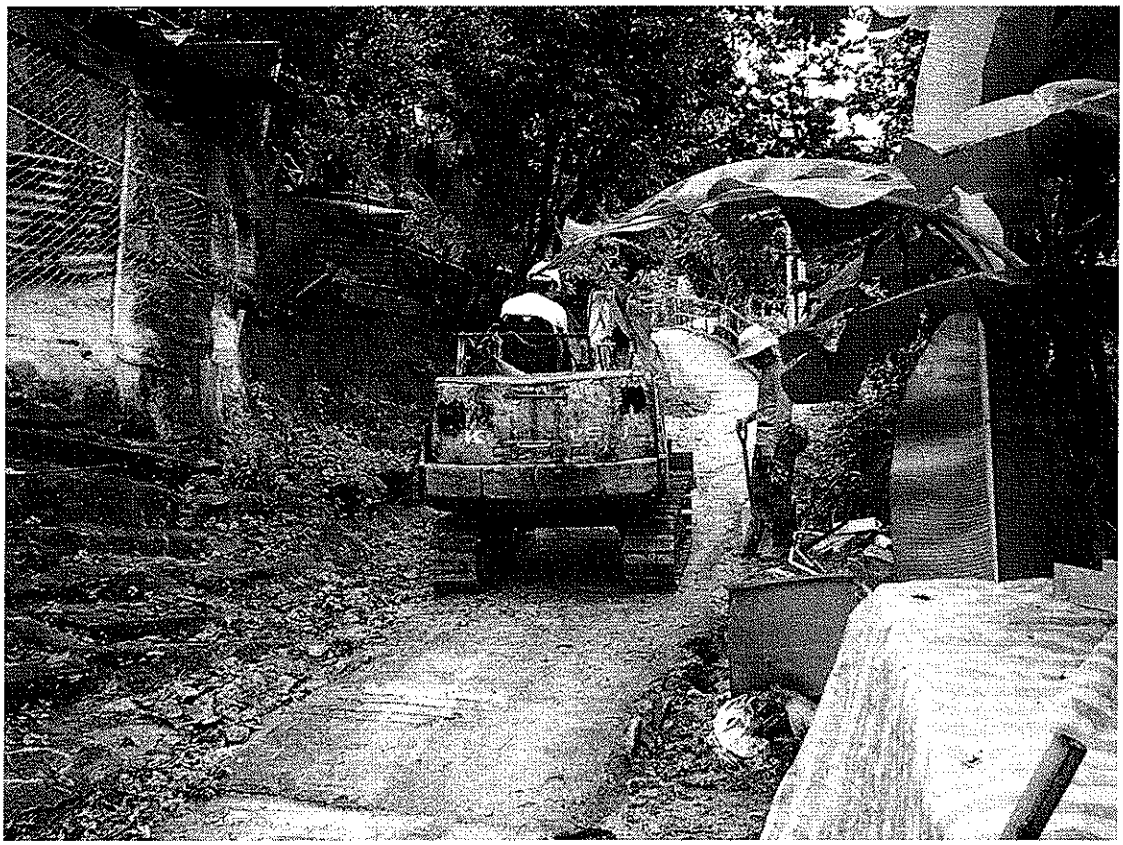


Plate 2: Pre-excavation view of alignment between MHs S51A and S50 – looking south

Plate 3: Post-excavation view of the alignment between MHs S54 and S52 – looking south

Plate 4: Deeper sondage excavated at MH S52 – looking south

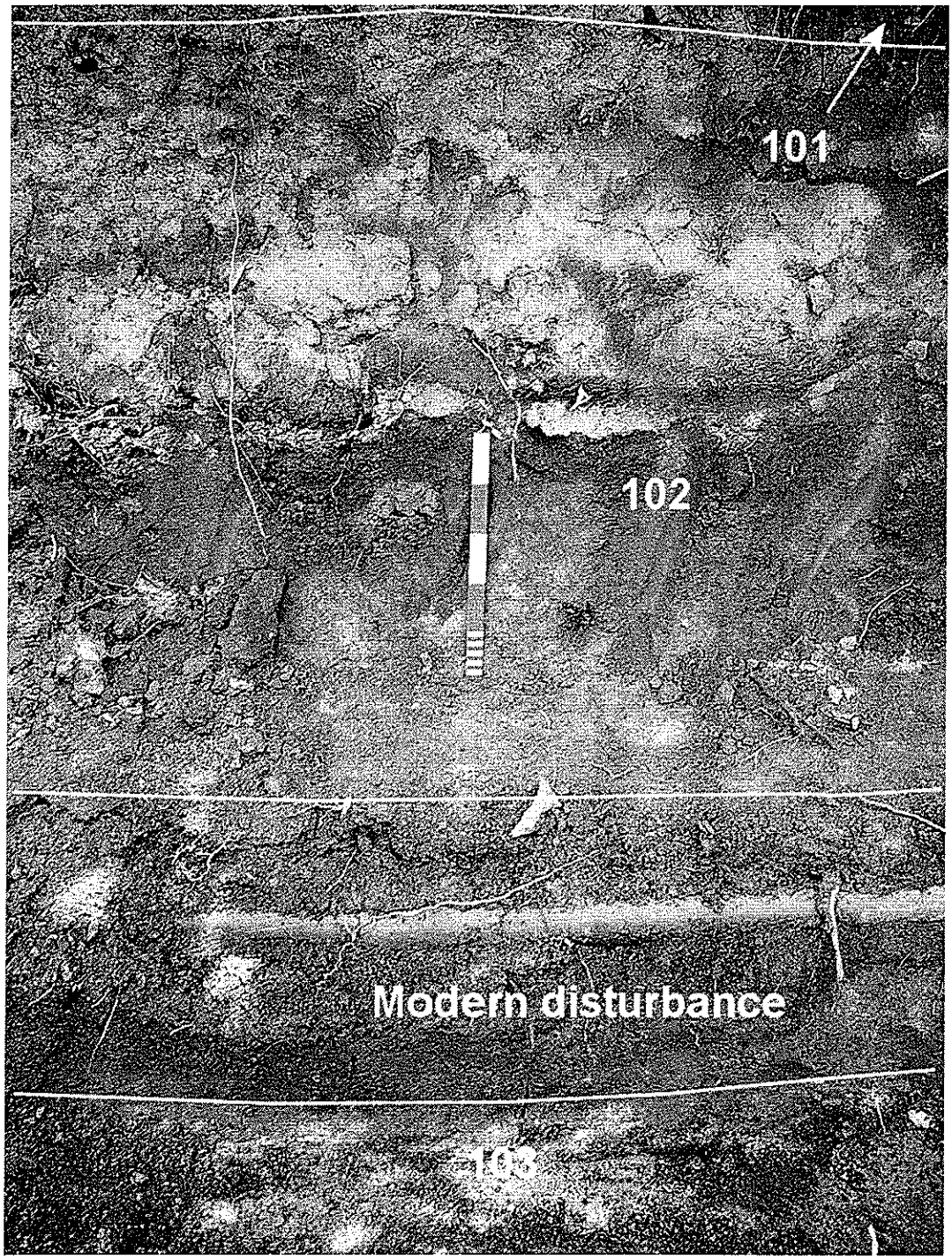


Plate 5: West facing section at MH S53 – trench stepped at base of 0.5m scale

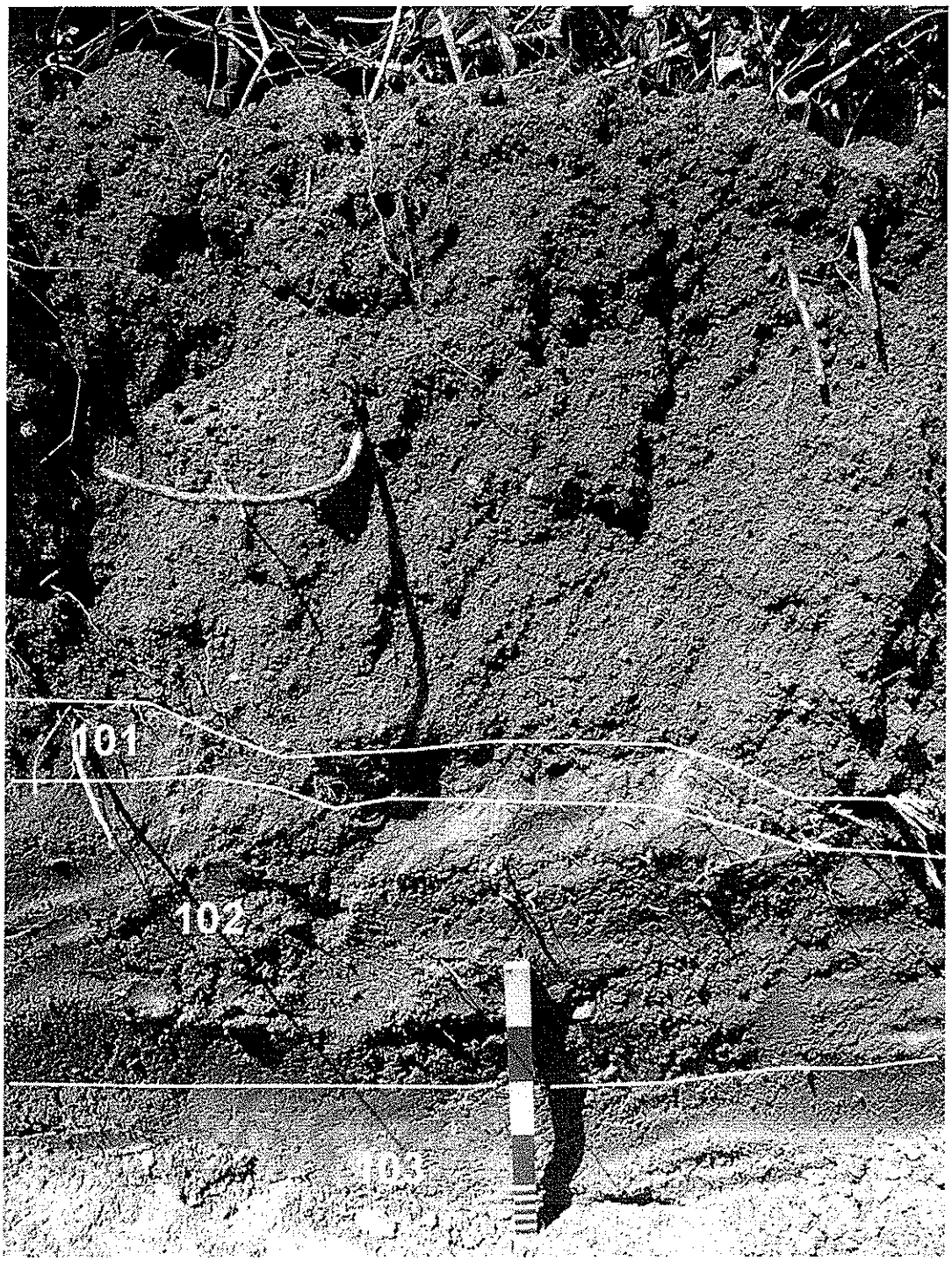


Plate 6: East facing section at MH S54

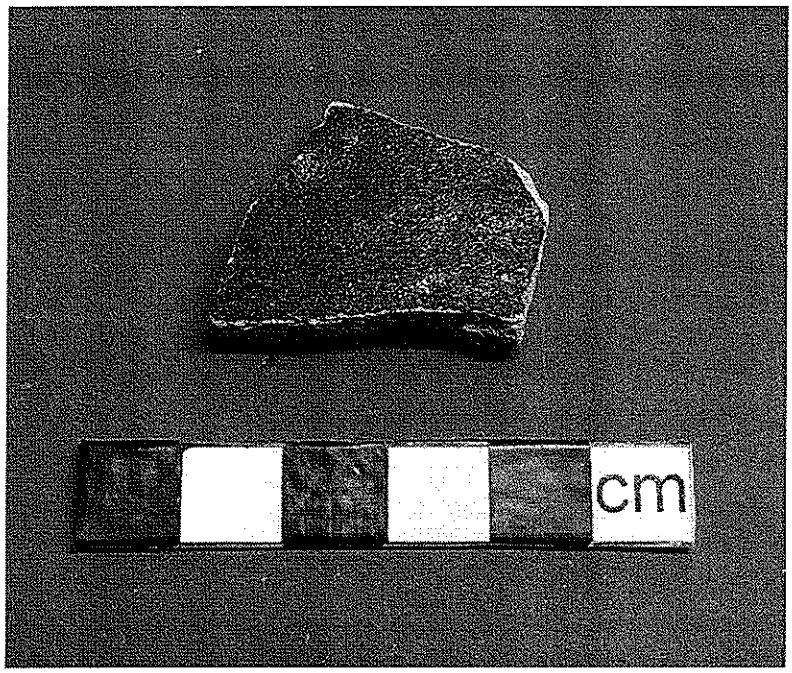


Plate 7: Undiagnostic village ware sherd found on surface of topsoil 101

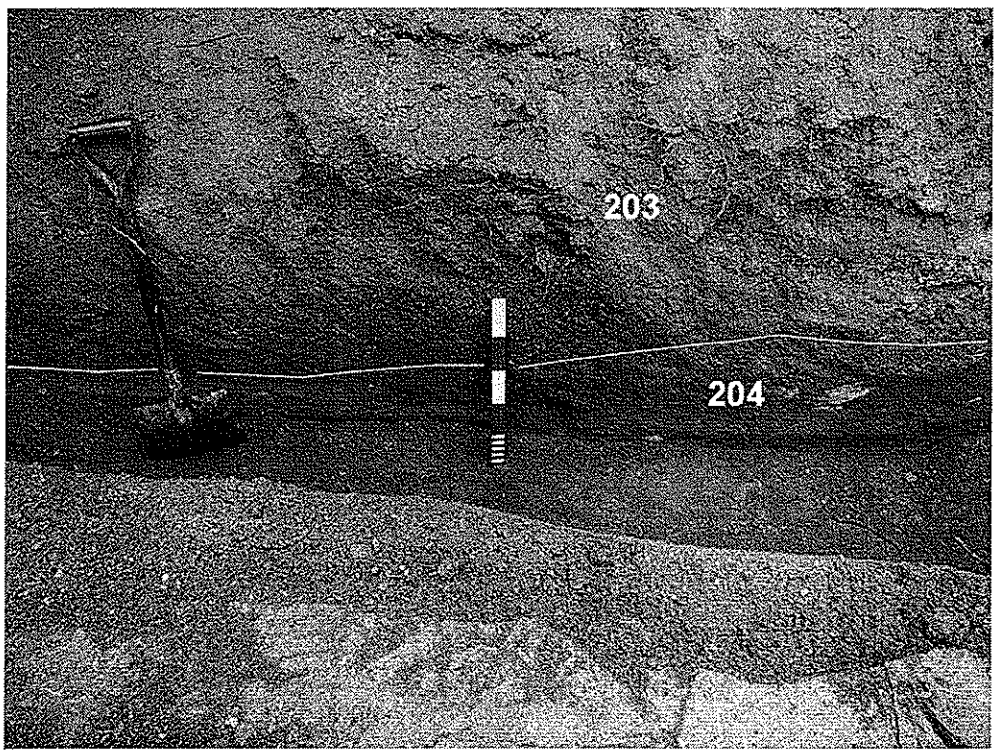


Plate 8: West facing section in environs of MH S50

Plate 9: Post-excavation view in environs of MH S50 – looking north

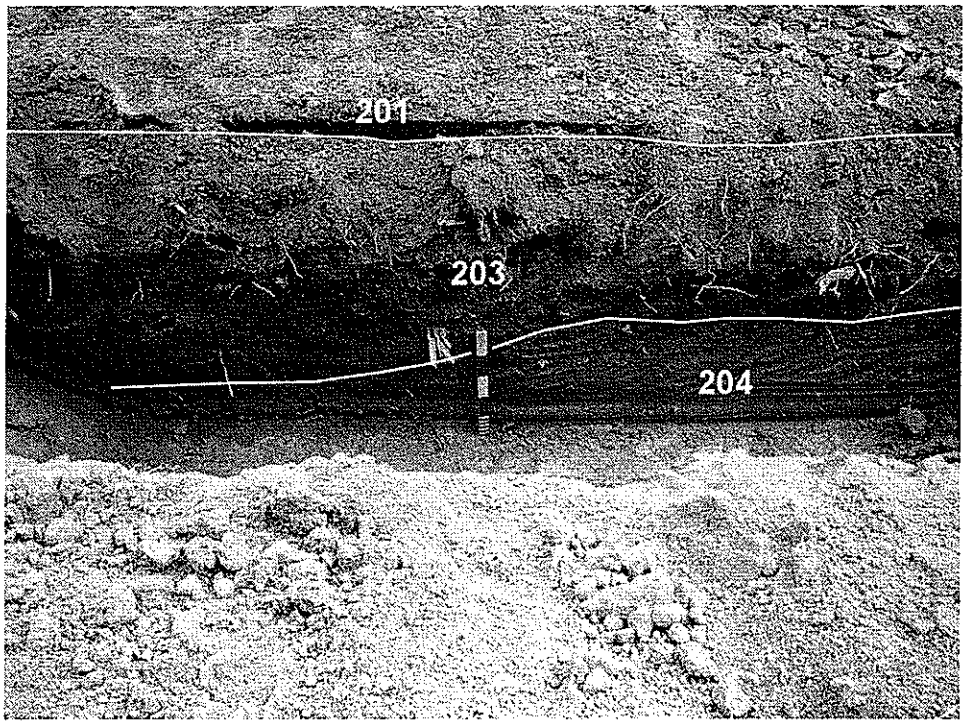


Plate 10: East facing section in environs of MH S51

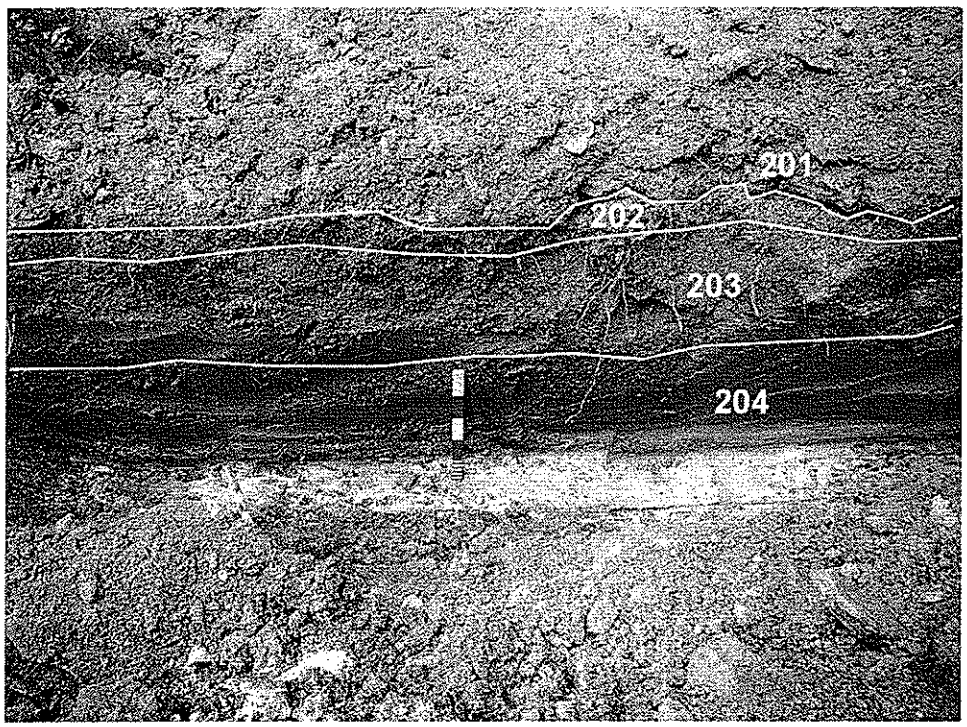


Plate 11: East facing section in environs of MH S51A

Plate 12: Post-excavation view in environs of MH S51A – looking south

10. Supporting Data

10.1 MHs S52 to S54: Tabulated stratigraphic, contextual and finds summary

Context	Description	Finds & Dating	Thickness
101	Topsoil: Greyish brown (10YR 5/2) slightly sandy, clayey SILT	1 sherd of undiagnostic VW: date unknown	0.10m max.
102	Slope Deposits: Strong brown (7.5YR 5/6) gravelly CLAY	None: date unknown	0.70-0.80m
103	CDG: Reddish Yellow (7.5YR 6/8) clayey GRAVEL	None: date unknown	1.5m at l.o.e

10.2 MHs S50 to S51A: Tabulated stratigraphic, contextual and finds summary

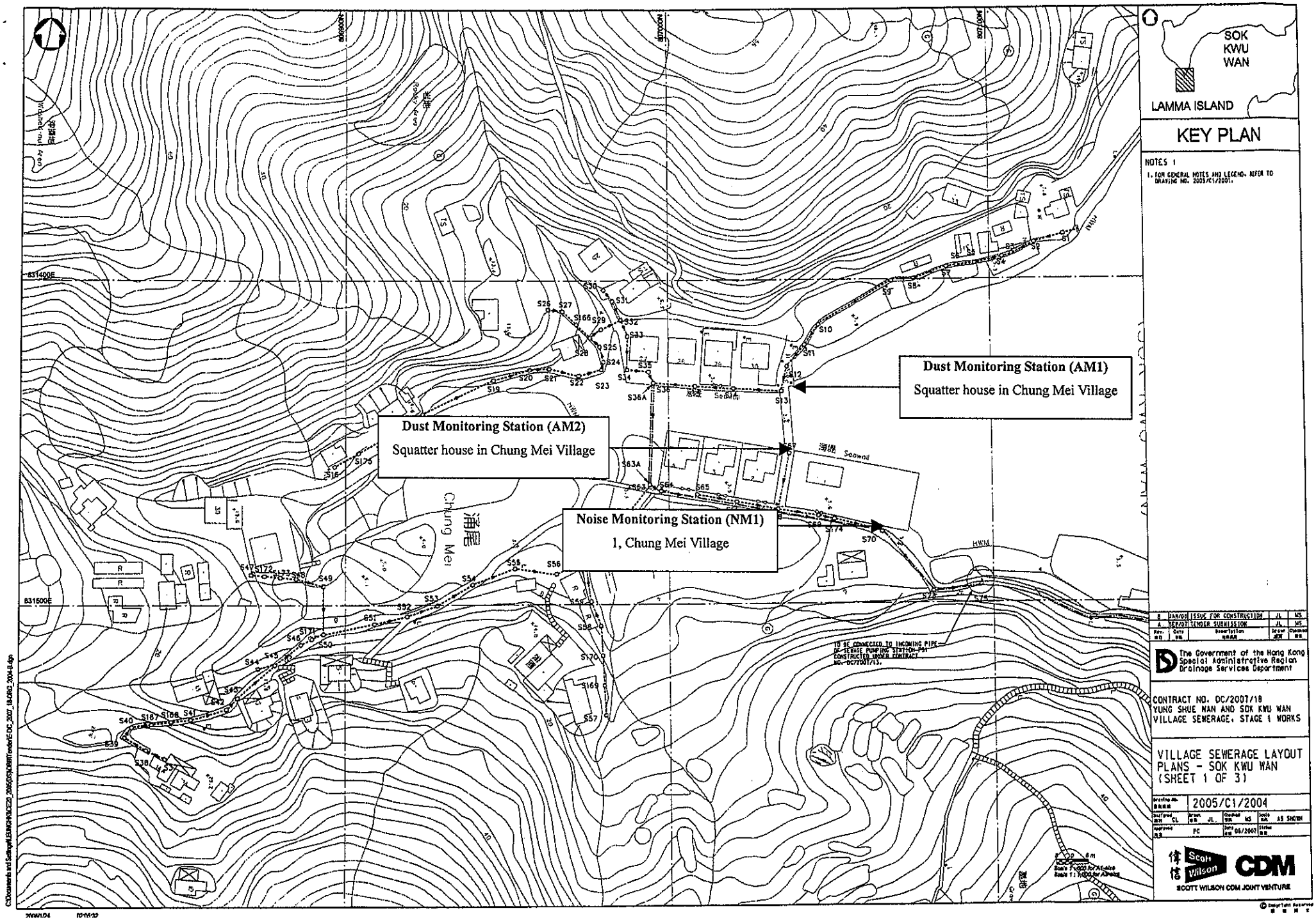
Context	Description	Finds & Dating	Thickness
201	Footpath Surfacing: Grey concrete	None: modern	0.03-0.05m
202	Topsoil: Greyish brown (10YR 5/2) slightly sandy, clayey SILT	None: date unknown	0.10 max
203	Slope Deposits: Reddish yellow (7.5YR 6/8) very gravelly CLAY	None: date unknown	0.50m max.
204	Slope deposits: Strong brown (7.5YR 5/6) slightly gravelly CLAY	None: date unknown	0.60m at l.o.e.

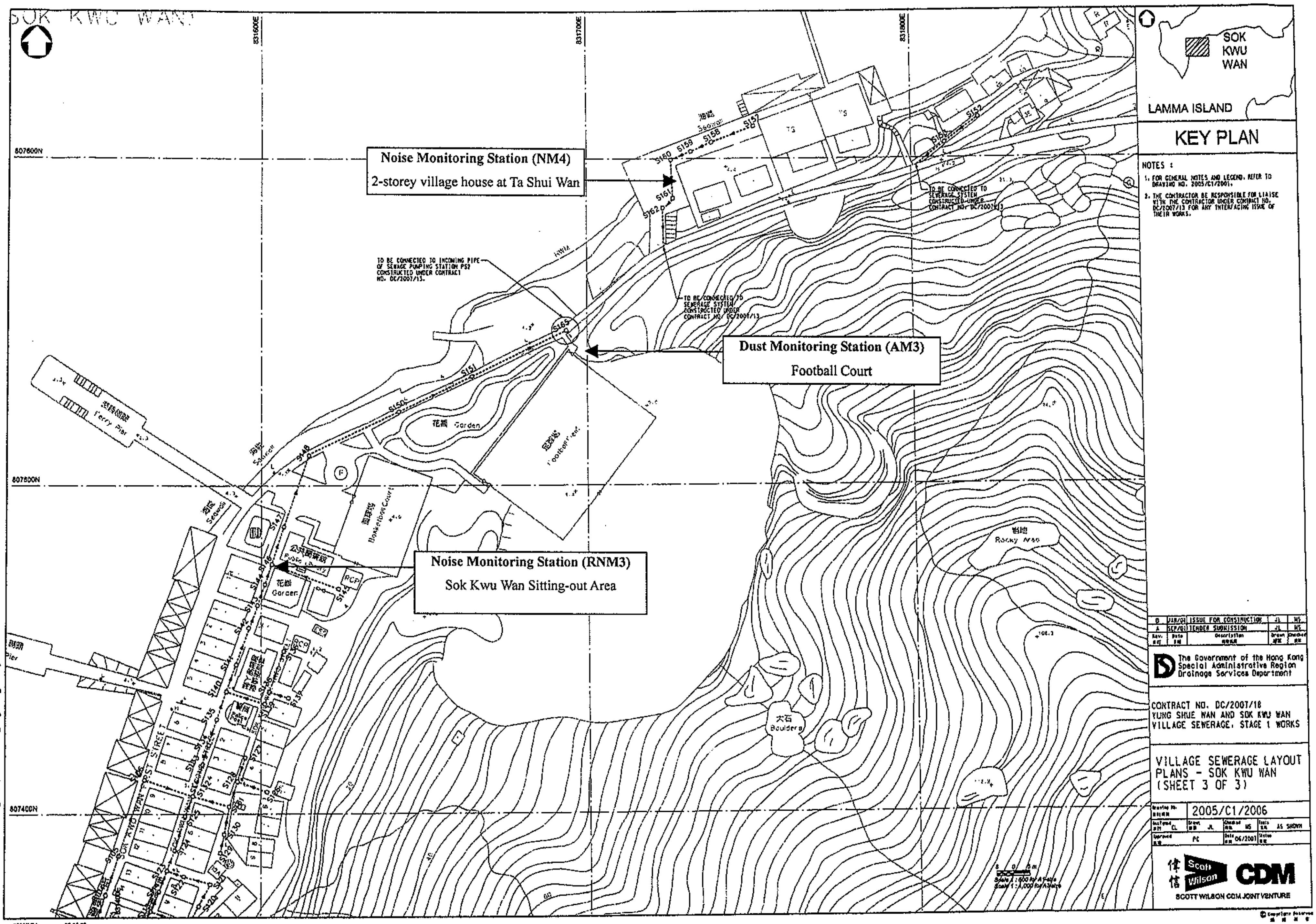
11. Supporting Documents

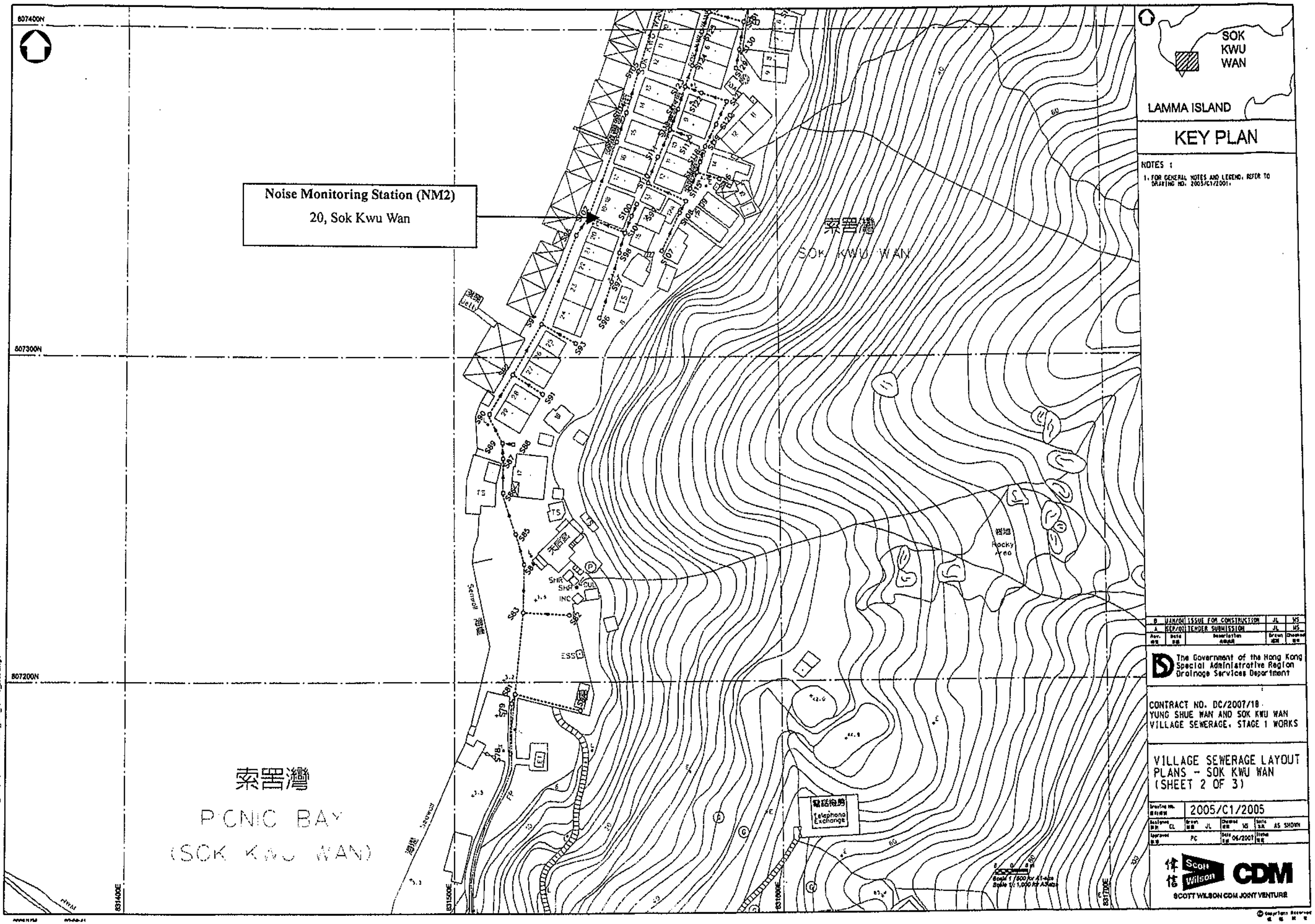
11.1 Requirements for Archaeological Watching Brief

12. Comments and Responses

Figures


Dust Monitoring Station (AM1)
Squatter house in Chung Mei Village
Dust Monitoring Station (AM2)
Squatter house in Chung Mei Village
Noise Monitoring Station (NM1)
1, Chung Mei Village
Chung Mei
涌尾
Seawall
831400E
831500E
TO BE CONNECTED TO INCOMING PIPE OF SEWAGE PUMPING STATION-PS1 CONSTRUCTED UNDER CONTRACT NO. DC/2007/13.
SOK KWU WAN
LAMMA ISLAND
KEY PLAN
NOTES :
1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 2005/C1/2001.
B JAN/08 ISSUE FOR CONSTRUCTION JL MS
A SEP/07 TENDER SUBMISSION JL MS
The Government of the Hong Kong Special Administrative Region
Drainage Services Department
CONTRACT NO. DC/2007/18
YUNG SHUE WAN AND SOK KWU WAN VILLAGE SEWERAGE, STAGE 1 WORKS
VILLAGE SEWERAGE LAYOUT PLANS - SOK KWU WAN (SHEET 1 OF 3)
2005/C1/2004
Scott Wilson CDM
SCOTT WILSON CDM JOINT VENTURE


SOK KWU WAN
Noise Monitoring Station (NM4)
2-storey village house at Ta Shui Wan
Dust Monitoring Station (AM3)
Football Court
Noise Monitoring Station (RNM3)
Sok Kwu Wan Sitting-out Area
TO BE CONNECTED TO INCOMING PIPE OF SEWAGE PUMPING STATION PS2 CONSTRUCTED UNDER CONTRACT NO. DC/2007/13.
TO BE CONNECTED TO SEWERAGE SYSTEM CONSTRUCTED UNDER CONTRACT NO. DC/2007/13
Ferry Pier
Garden
Football Court
Basketball Court
Rocky Area
Boulders
807600N
807500N
807400N
831600E
831700E
831800E
SOK KWU WAN
LAMMA ISLAND
KEY PLAN
NOTES :
1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 2005/C1/2001.
2. THE CONTRACTOR BE RESPONSIBLE FOR LIAISE WITH THE CONTRACTOR UNDER CONTRACT NO. DC/2007/13 FOR ANY INTERFACING ISSUE OF THEIR WORKS.
B 01/08 ISSUE FOR CONSTRUCTION JL MS
A 10/07 TENDER SUBMISSION JL MS
The Government of the Hong Kong Special Administrative Region Drainage Services Department
CONTRACT NO. DC/2007/18
YUNG SHUE WAN AND SOK KWU WAN VILLAGE SEWERAGE, STAGE 1 WORKS
VILLAGE SEWERAGE LAYOUT PLANS - SOK KWU WAN (SHEET 3 OF 3)
2005/C1/2006
SCOTT WILSON CDM JOINT VENTURE



Noise Monitoring Station (NM2)
20, Sok Kwu Wan
索罟灣
SOK KWU WAN
索罟灣
PICNIC BAY
(SOK KWU WAN)
Rocky Area
Telephone Exchange
Seawall
Jetty
807400N
807300N
807200N
831400E
831500E
831600E
831700E
SOK KWU WAN
LAMMA ISLAND
KEY PLAN
NOTES :
1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 2005/C1/2001.
B JAN/07 ISSUE FOR CONSTRUCTION JL WS
A SEP/07 TENDER SUBMISSION JL WS
The Government of the Hong Kong Special Administrative Region Drainage Services Department
CONTRACT NO. DC/2007/18
YUNG SHUE WAN AND SOK KWU WAN VILLAGE SEWERAGE, STAGE 1 WORKS
VILLAGE SEWERAGE LAYOUT PLANS - SOK KWU WAN (SHEET 2 OF 3)
2005/C1/2005
AS SHOWN
Scott Wilson
CDM
SCOTT WILSON CDM JOINT VENTURE