



PROJECT NO.: TCS/00512/09

**DSD CONTRACT NO. DC/2009/13  
CONSTRUCTION OF SEWAGE TREATMENT WORKS AT  
YUNG SHUE WAN AND SOK KWU WAN**

**SOK KWU WAN PORTION AREA  
MONTHLY ENVIRONMENTAL MONITORING AND AUDIT  
(EM&A) REPORT (No.5) – DECEMBER 2010**

PREPARED FOR  
**LEADER CIVIL ENGINEERING CORPORATION LIMITED**

**Quality Index**

<b>Date</b>	<b>Reference No.</b>	<b>Prepared By</b>	<b>Approved By</b>
17 January 2011	TCS00512/09/600/R0145v2		
		Nicola Hon Environmental Consultant	T.W. Tam Environmental Team Leader

<b>Version</b>	<b>Date</b>	<b>Description</b>
1	12 January 2011	First Submission
2	17 January 2011	Amended against IEC's comments on 14 January 2010

# Scott Wilson CDM Joint Venture

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

Your reference:

Our reference: 05117/6/16/346383

Date: 20 January 2011

**BY FAX ONLY**

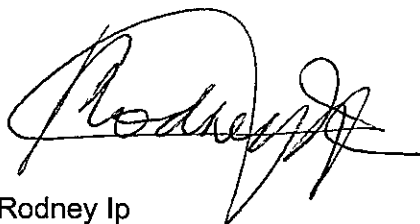
Attention: Mr. C K Au

Dear Sir

**Contract No. DC/2009/13**  
**Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan**  
**Sok Kwu Wan Portion Area**  
**Monthly Environmental Monitoring and Audit (EM&A) Report No. 5 (Dec 2010)**

We refer to the Monthly EM&A Monitoring Report No. 5 for December 2010 received under cover of the email from the Environmental Team, Action-United Environmental Services and Consulting (AUES), dated on 17 January 2011. We do not have further comment and have verified the captioned report.

Yours faithfully  
SCOTT WILSON CDM JOINT VENTURE



Rodney Ip

ICWR/KKK/ecwc

cc Leader Civil Engineering (Attn: Mr Vincent Chan)  
AUES (Attn: Mr T.W. Tam)  
ER/LAMMA (Attn: Mr Neil Wong)  
CDM (Attn: Mr Mark Sin)

## EXECUTIVE SUMMARY

ES.01. This is the 5<sup>th</sup> monthly EM&A Report for Sok Kwu Wan (hereinafter ‘this Report’) for the designated works under Environmental Permit No.EP-281/2007/A, covering a period from **1 to 31 December 2010** (hereinafter ‘the Reporting Period’) during the construction of relevant land works commencement on 27 July 2010.

### ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES.02. Environmental monitoring activities under the EM&A program in this Reporting Month are summarized in the following table.

Issues	Environmental Monitoring Parameters / Inspection	Occasions
Air Quality	1-hour TSP	54
	24-hour TSP	18
Construction Noise	Leq (30min) Daytime	20
Water Quality	Marine Water Sampling	0
Inspection / Audit	ET Regular Environmental Site Inspection	4

ES.03. According to the EM&A Manual of Sok Kwu Wan, water quality monitoring should be carried out during the marine work commencement. Since the marine work of outfall construction has not yet commenced, no impact water quality monitoring was undertaken in this reporting month.

### BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES.04. No exceedance of air quality and construction noise monitoring were recorded in this Reporting Month. No Notification of Exceedance (NOE) was, therefore, issued. The statistics of environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Environmental Issues	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Air Quality	1-hour TSP	0	0	0	--	--
	24-hour TSP	0	0	0	--	--
Construction Noise	Leq <sub>30min</sub> Daytime	0	0	0	--	--
Water Quality	DO	NA	NA	NA	NA	NA
	Turbidity	NA	NA	NA	NA	NA
	SS	NA	NA	NA	NA	NA

Note: NOE – Notification of Exceedance

### ENVIRONMENTAL COMPLAINT

ES.05. No written or verbal complaint was recorded in this Reporting Month. The statistics of environmental complaint are summarized in the following table.

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
27 July –30 November 2010	0	0	NA
1 – 31 December 2010	0	0	NA

### NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.06. No environmental summons or successful prosecutions were recorded in this Reporting Month. The statistics of environmental complaint are summarized in the following tables.

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
27 July –30 November 2010	0	0	NA
1 – 31 December 2010	0	0	NA

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
27 July –30 November 2010	0	0	NA
1 – 31 December 2010	0	0	NA

#### REPORTING CHANGE

ES.07. There is no reporting change in this reporting month

#### SITE INSPECTION BY EXTERNAL PARTIES

ES.08. No site inspection was undertaken by external parties i.e. EPD or AFCD within the Reporting Period.

#### FUTURE KEY ISSUES

ES.09. During dry season, special attention should be paid to the dust mitigation measures to avoid fugitive dust emissions from loose soil surface or haul road. Nevertheless, mitigation measures implemented for control the surface runoff including wheel wash facilities, covering of the loose soil surface or stockpile with tarpaulin sheet, etc., should fully implement.

ES.10. Muddy water and other water quality pollutants via site surface water runoff into the sea body within Fish culture zone at Picnic Bay and the Secondary recreation contact subzone at Mo Tat Wan is the key issue of the Project. Mitigation measures for water quality should be properly maintained to prevent any muddy or sandy runoff from the loose soil surface overflow on the site boundary.

ES.11. Construction of outfall marine works cannot be carried out until the baseline water quality monitoring completion and the related Action and Limit (A/L) levels have established.

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## 1 INTRODUCTION

### PROJECT BACKGROUND

- 1.01 The Leader Civil Engineering Corporation Limited (Leader) has been awarded the *Contract DC/2009/13 - Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwn Wan* (the Project) by the Drainage Services Department (DSD) on 4 May 2010. The Project is part of an overall plan approved under a statutory EIA for Outlying Islands Sewerage Stage 1 Phase 2 Package J – Sok Kwu Wan Sewage Collection and Treatment (Register No. AEIAR-075/2003) and Disposal Facilities and Outlying Islands Sewerage Stage 1 Phase 1 Package C – Yung Shue Wan Sewage Treatment Works and Outfall (Register No. EIA-124/BC). The Environmental Permit No. EP-281/2007 and EP-282/2007 for the Project have been obtained by the DSD on 29 June 2007 for the relevant works. After July 2009, EP-281/2007/A instead EP-281/2007 is EP for Sok Kwu Wan relevant Works.
- 1.02 The Project involves construction of sewage treatment works at Sok Kwn Wan and Yung She Wan with a capacity of 1,430m<sup>3</sup>/day and 2,850m<sup>3</sup>/day respectively to provide secondary treatment, construction of 2 pumping stations at Sok Kwu Wan and 1 pumping station at Yung Shue Wan, construction of submarine outfall from the coastline and laying of underground sewerage pipeline. The site layout plan for the captioned work under the Project is showing in **Appendix A**
- 1.03 According to the Particular Specification (PS) and **Appendix 25** of the Project, Leader should establish an Environmental Team to implement the environmental monitoring and auditing works to fulfill the requirements as stipulated in the Environmental Monitoring and Audit (EM&A) Manuals.
- 1.04 Action-United Environmental Services and Consulting (AUES) has been commissioned by Leader as the ET to implement the relevant EM&A program. Organization chart of the Environmental Team for the Project is shown in **Appendix B**. For ease of reporting, the proposed EM&A programme for baseline and impact monitoring is split to following two stand-alone parts:
- (a) Proposed EM&A Programme for Baseline and Impact Monitoring – Sok Kwu Wan (under EP No. 281/2007/A varied on 23 September 2009)
  - (b) Proposed EM&A Programme for Baseline and Impact Monitoring – Yung Shue Wan (under EP No. 282/2007)
- 1.05 According to the EM&A Manuals of Sok Kwu Wan and Yung Shue Wan, baseline water quality monitoring should be carried out for consecutive six months before the marine work commencement. Therefore, the baseline reports of Sok Kwu Wan and Yung Shue Wan are divided to two volumes i.e. the Volume 1 for air quality and noise monitoring; and the Volume II for water quality monitoring for separate submission.
- 1.06 There is a concurrent DSD contract “*DC/2007/18 Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works*” undertaking at Sok Kwu Wan since April 2008 and the works are ongoing.
- 1.07 Consider that the construction works of DC/2007/18 and DC/2009/13 at Sok Kwu Wan is under the same Environmental Permit and EM&A Manual, so the performance criteria of air quality and construction noise at Sok Kwu Wan under the Project is recommended to adopt the Action/Limit Levels established by contract DC/2007/18. The Baseline Monitoring Report Volume 1 under the Project for air quality and noise at Sok Kwu Wan was submitted on 9 July 2010 and verified by IEC and for EPD endorsement before the relevant land works commencement on 27 July 2010.
- 1.08 This is the 5<sup>th</sup> monthly EM&A report – Sok Kwu Wan Portion Area presenting the monitoring results and inspection findings for the reporting period from **1 to 31 December 2010**.

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**REPORT STRUCTURE**

1.09 The Monthly Environmental Monitoring and Audit (EM&A) Report – Sok Kwu Wan is structured into the following sections:-

<b>SECTION 1</b>	<b>INTRODUCTION</b>
<b>SECTION 2</b>	<b>PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS</b>
<b>SECTION 3</b>	<b>SUMMARY OF MONITORING REQUIREMENTS</b>
<b>SECTION 4</b>	<b>AIR QUALITY MONITORING RESULTS</b>
<b>SECTION 5</b>	<b>CONSTRUCTION NOISE MONITORING RESULTS</b>
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<b>SECTION 7</b>	<b>WASTE MANAGEMENT</b>
<b>SECTION 8</b>	<b>SITE INSPECTIONS</b>
<b>SECTION 9</b>	<b>ENVIRONMENTAL COMPLAINTS AND NON-COMPLIANCE</b>
<b>SECTION 10</b>	<b>IMPLEMENTATION STATUES OF MITIGATION MEASURES</b>
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<b>SECTION 12</b>	<b>CONCLUSIONS AND RECOMMENDATION</b>



## 2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

### PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

- 2.01 Organization structure and contact details of relevant parties with respect to on-site environmental management are shown in [Appendix B](#).

### CONSTRUCTION PROGRESS

- 2.02 The master and three month rolling construction programs are enclosed in [Appendix C](#) and the major construction activities undertaken in this Reporting Month are listed below:-
- Footpath Diversion adjacent to SKW Sewage Treatment Works
  - Construction for pumping station no.1 & 2

### SUMMARY OF ENVIRONMENTAL SUBMISSIONS

- 2.03 Summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this Reporting Month is presented in [Table 2-1](#).

**Table 2-1 Status of Environmental Licenses and Permits**

Item	Description	License/Permit Status
1	Air pollution Control (Construction Dust)	Notified EPD on 19 May 2010 Ref.: 317486
2	Chemical waste Producer Registration	In progress
3	Water Pollution Control Ordinance	Approved on 29/9/2010 Valid to: 30/09/2015 Licence no.: WT00007567-2010
4	Billing Account for Disposal of Construction Waste	Issued on 26 May 2010 A/C No: 7010815

- 2.04 The “Baseline/Impact Monitoring Methodology (TCS00512/10/600/R0010Ver.4)” was set out in accordance with the Sok Kwu Wan Environmental Monitoring and Audit Manual. It was approved by the ER and agreed with the Independent Environmental Checker (IEC) and submitted to the EPD for endorsement.
- 2.05 Baseline Monitoring Report Volume 1 (TCS00512/10/600/R0020Ver.3) for Sok Kwu Wan for the Project was issued by the ETL and verified by the IEC on 12 July 2010. The report was also submitted to the EPD for endorsement.
- 2.06 Baseline Monitoring Report Volume 2 of water quality for Sok Kwu Wan for the Project will be submitted to IEC verification and EPD endorsement upon the six months baseline marine water monitoring completion.

### 3 SUMMARY OF BASELINE MONITORING REQUIREMENTS

#### ENVIRONMENTAL ASPECT

- 3.01 The EM&A baseline monitoring program cover the following environmental issues:
- Air quality;
  - Construction noise; and
  - Marine Water quality;
- 3.02 The ET implements the EM&A programme in accordance with the aforementioned requirements. Detailed air quality, construction noise and water quality of the EM&A program are presented in the following sub-sections.
- 3.03 A summary of the Air, Noise and Marine Water monitoring parameters is presented in **Table 3-1**:

**Table 3-1 Summary of the Air and Noise monitoring parameters of EM&A Requirements**

Environmental Issue	Parameters
Air Quality	<ul style="list-style-type: none"> <li>• 1-hour TSP Monitoring by Real-Time Portable Dust Meter; and</li> <li>• 24-hour TSP Monitoring by High Volume Air Sampler.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Leq (30min) during normal working hours; and</li> <li>• Leq (15min) during Restricted Hours.</li> </ul>
Marine Water Quality	<p><b><i>In-situ Measurements</i></b></p> <ul style="list-style-type: none"> <li>• Dissolved Oxygen Concentration (mg/L);</li> <li>• Dissolved Oxygen Saturation ( % );</li> <li>• Turbidity (NTU);</li> <li>• pH unit;</li> <li>• Salinity (ppt);</li> <li>• Water depth (m); and</li> <li>• Temperature (°C).</li> </ul> <p><b><i>Laboratory Analysis</i></b></p> <ul style="list-style-type: none"> <li>• Suspended Solids (mg/L)</li> </ul>

#### MONITORING LOCATIONS

##### Air Quality

- 3.04 Three air monitoring stations: AM1, AM2 and AM3 were designated in the *EM&A Manual Section 2.5*. The detailed air monitoring stations is described in **Table 3-2** and graphical is shown in **Appendix D**.

**Table 3-2 Location of Air Quality Monitoring Station**

Sensitive Receiver	Location
AM1	Squatter house in Chung Mei Village
AM2	Squatter house in Chung Mei Village
AM3	Football court

##### Construction Noise

- 3.05 According to *EM&A Manual Section 3.4* stipulations, there were four noise sensitive receivers (NM1-NM4) designated for the construction noise monitoring. NM1, NM2 and NM4 of the three designated monitoring stations were identified and are monitored by the current DSD contract DC/2007/18. However, the premises monitoring station NM3 was rejected by the owner of 1B Sok Kwu Wan and an alternative noise monitoring station RNM3 replacement was proposed by the contract DC/2007/18 ET and accepted by the IEC and EPD before the baseline monitoring commencement in April 2008. The location RNM3 is located at Sok Kwu Wan Sitting-out area which just 3m width footpath away from the original location house 1B. The detailed construction noise monitoring stations to also under the Project is described in **Table 3-3** and graphical is shown in **Appendix D**.

**Table 3-3 Location of Construction Noise Monitoring Station**

Sensitive Receiver	Location
NM1	1, Chung Mei Village
NM2	20, Sok Kwu Wan
RNM3	Sok Kwu Wan Sitting-out Area
NM4	2-storey village house at Ta Shui Wan

**Water Quality**

- 3.06 Three control stations (C1-C3) and three impact stations (W1-W3) were recommended in the *EM&A Manual Section 4.5*. Impact stations W1-W3 identified at the sensitive receivers (FCZ and secondary contact recreation subzone) to monitor the impacts from the construction of the submarine outfall as well as the effluent discharge from the proposed STW on water quality. Three control stations: C1, C2 & C3 were specified at locations representative of the project site in its undisturbed condition and located at upstream and downstream of the works area. Detailed and co-ordination of marine water quality monitoring stations is described in *Table 3-4* and the graphical is shown in *Appendix D* and would be performed for EM&A programme.

**Table 3-4 Location of Marine Water Quality Monitoring Station**

Station	Description	Co-ordnance	
		Easting	Northing
W1	Secondary recreation contact subzone at Mo Tat Wan	832 968	807 732
W2	Fish culture zone at Picnic Bay	832 607	807 985
W3	Fish culture zone at Picnic Bay	832 045	807 893
C1 (flood)	Control Station	833 703	808 172
C2	Control Station	831 467	807 747
C3 (ebb)	Control Station	832 220	808 862

**MONITORING FREQUENCY AND PERIOD**

- 3.07 The Impact monitoring carried out in the EM&A programme is basically in accordance with the requirements in *EM&A Manual Sections 2.7, 3.6, 4.7 and 4.8*. The monitoring requirements are listed as follows:

**Air Quality Monitoring**

Parameters: 1-hour TSP and 24-hour TSP.

Frequency: Once in every six days for 24-hour TSP and three times in every six days for 1-hour TSP.

Duration: Throughout the construction period.

**Noise Monitoring**

Parameters: Leq (30min) & Leq (5min), L10 and L90.

Leq (15min) & Leq (5min), L10 and L90 during the construction undertaken during Restricted Hours (19:00 to 07:00 hours next of normal working day and full day of public holiday and Sunday)

Frequency: Once per week during 0700-1900 hours on normal weekdays. Restricted Hour monitoring should depend on conditions stipulated in Construction Noise Permit.

Duration: Throughout the construction period.

**Marine Water Quality Monitoring**

Parameters: Duplicate in-situ measurements: water depth, temperature, Dissolved Oxygen, pH, turbidity and salinity;  
 HOKLAS-accredited laboratory analysis: Suspended Solids

- Frequency: Three days a week, at mid ebb and mid flood tides. The interval between 2 sets of monitoring will be more than 36 hours.
- Sampling Depth: (i.) Three depths: 1m below water surface, 1m above sea bottom and at mid-depth when the water depth exceeds 6m.  
(ii.) If the water depth is between 3m and 6m, two depths: 1m below water surface and 1m above sea bottom.  
(iii.) If the water depth is less than 3m, 1 sample at mid-depth is taken
- Duration: During the course of marine works

### **Post-Construction Monitoring – Marine Water**

- 3.08 Upon the marine works (dredging and HDD pipe installation) completion, 4 weeks of post-construction monitoring would be undertaken in accordance with the *Section 4.8 of EM&A Manual*. The requirements of post-construction monitoring such as the parameter, frequency, location and sampling depth is same as the impact monitoring.

### **MONITORING EQUIPMENT**

#### **Air Quality Monitoring**

- 3.09 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B*. If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to approve. The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

#### **Noise Monitoring**

- 3.10 Sound level meter in compliance with the *International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1)* specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m s<sup>-1</sup>.

#### **Water Quality Monitoring**

- 3.11 ***Dissolved Oxygen and Temperature Measuring Equipment*** – The instrument should be a portable and weatherproof dissolved oxygen (DO) measuring instrument complete with cable and sensor, and use a DC power source. The equipment should be capable of measuring as included a DO level in the range of 0 – 20mg L<sup>-1</sup> and 0 – 200% saturation; and a temperature of 0 – 45 degree Celsius.
- 3.12 ***pH Meter*** – The instrument shall consist of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It shall be readable to 0.1 pH in arrange of 0 to 14.
- 3.13 ***Turbidity (NTU) Measuring Equipment*** – The instrument should be a portable and weatherproof turbidity measuring instrument using a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU.
- 3.14 ***Water Sampling Equipment*** – A water sampler should comprise a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth.
- 3.15 ***Water Depth Detector*** – A portable, battery-operated echo sounder should be used for the determination of water depth at each designated monitoring station. This unit can either be hand held or affixed to the bottom of the work boat.
- 3.16 ***Salinity Measuring Equipment*** – A portable salinometer capable of measuring salinity in the range of 0 - 40 parts per thousand (ppt) should be provided for measuring salinity of the water at each

monitoring location.

- 3.17 **Sample Containers and Storage** – Water samples for SS should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen).
- 3.18 **Monitoring Position Equipment** - A hand-held or boat-fixed type digital Differential Global Positioning System (DGPS) with way point bearing indication and Radio Technical Commission for maritime (RTCM) Type 16 error message ‘screen pop-up’ facilities (for real-time auto-display of error messages and DGPS corrections from the Hong Kong Hydrographic Office), or other equipment instrument of similar accuracy, should be provided and used during marine water monitoring to ensure the monitoring vessel is at the correct location before taking measurements.
- 3.19 **Suspended Solids Analysis** – Analysis of suspended solids shall be carried out in a HOKLAS or other international accredited laboratory.

#### EQUIPMENT CALIBRATION

- 3.20 Calibration of the HVS is performed upon installation in accordance with the manufacturer’s instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference.
- 3.21 The 1-hour TSP meter was calibrated by the supplier prior to purchase. Zero response of the equipment was checked before and after each monitoring event. In-house calibration with the High Volume Sampler (HVS) in same condition was undertaken in yearly basis.
- 3.22 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis.
- 3.23 The Water Quality Monitoring equipments such as Dissolved Oxygen meter, pH Meter, Turbidity Measuring Instrument and Salinometer, are calibrated by HOKLAS accredited laboratory of three month intervals.
- 3.24 All updated calibration certificates of the monitoring equipment used for the impact monitoring program in the Reporting Month would be attached in [Appendix E](#).

#### METEOROLOGICAL INFORMATION

- 3.25 The meteorological information during the construction phase is obtained from the Wong Chuk Hang Station of the Hong Kong Observatory (HKO) due to it nearly the Project site.

#### DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.26 The impact monitoring data are handled by the ET’s systematic data recording and management, which complies with in-house Quality Management System. Standard Field Data Sheets (FDS) are used in the impact monitoring program.
- 3.27 The monitoring data recorded in the equipment e.g. 1-hour TSP meter, noise meter and Multi-parameter Water Quality Monitoring System, are downloaded directly from the equipments at the end of each monitoring day. The downloaded monitoring data are input into a computerized database properly maintained by the ET. The laboratory results are input directly into the computerized database and QA/QC checked by personnel other than those who input the data. For monitoring activities require laboratory analysis, the local laboratory follows the QA/QC requirements as set out under the HOKLAS scheme for all laboratory testing.

#### DETERMINATION OF ACTION/LIMIT (A/L) LEVELS

- 3.28 According to the Sok Kwu Wan Environmental Monitoring and Audit Manual, the air quality, construction noise were set up, namely Action and Limit levels are listed in *Tables 3-5* and *3-6* as below.

**Table 3-5 Action and Limit Levels for Air Quality Monitoring**

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

**Table 3-6 Action and Limit Levels for Construction Noise**

Monitoring Location	Action Level	Limit Level
	0700-1900 hours on normal weekdays	
NM1 NM2 RNM3 NM4	When one or more documented complaints are received	75 dB(A) of Leq(30min) during normal hours from 0700 to 1900 hours on normal weekdays, reduced to 70 dB(A) of Leq(30min) for schools and 65 dB(A) during school examination periods

- 3.29 Due to water quality baseline monitoring still not yet completed, the Action/Limit Levels will be provided in due course.
- 3.30 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan enclosed in [Appendix F](#).

#### 4 IMPACT MONITORING RESULTS - AIR QUALITY

4.01 As informed by Leader, the construction of relevant land works at Sok Kwu Wan was commenced on 27 July 2010, therefore, the impact EM&A program was started as compliance with the contract Particular Specification, Sok Kwu Wan the EM&A Manual, and the EP. The air quality monitoring results shared with Contract DC/2007/18 are presented in the following sub-sections.

##### Results of Air Quality Monitoring

4.02 In this reporting period, 6 air quality monitoring days were performed at the designated locations AM1, AM2 and AM3. The results for 24-hour and 1-hour TSP at AM1, AM2 and AM3 are summarized in *Tables 4-1, 4-2 and 4-3* respectively. The 24-hour TSP data are shown in *Appendix G*. Also, the graphical plots of 24-hour and 1-hour TSP are shown in *Appendix H*.

**Table 4-1 Summary of 24-hour and 1-hour TSP Monitoring Results – AM1**

Date	24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	1-hour TSP ( $\mu\text{g}/\text{m}^3$ )				
		Date	Start Time	1 <sup>st</sup> hour measured	2 <sup>nd</sup> hour measured	3 <sup>rd</sup> hour measured
1-Dec-10	93	1-Dec-10	09:25	119	129	134
7-Dec-10	104	7-Dec-10	09:30	133	141	123
13-Dec-10	82	13-Dec-10	09:25	106	116	96
17-Dec-10	77	17-Dec-10	09:25	133	123	139
23-Dec-10	76	23-Dec-10	09:30	121	113	106
29-Dec-10	77	29-Dec-10	09:30	118	114	109
Average (Range)	<b>85</b> (76 – 104)	Average (Range)		<b>121</b> (96 – 141)		

**Table 4-2 Summary of 24-hour and 1-hour TSP Monitoring Results – AM2**

Date	24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	1-hour TSP ( $\mu\text{g}/\text{m}^3$ )				
		Date	Start Time	1 <sup>st</sup> hour measured	2 <sup>nd</sup> hour measured	3 <sup>rd</sup> hour measured
1-Dec-10	103	1-Dec-10	09:30	113	108	124
7-Dec-10	111	7-Dec-10	09:40	115	129	119
13-Dec-10	90	13-Dec-10	09:35	117	105	96
17-Dec-10	84	17-Dec-10	09:35	143	154	133
23-Dec-10	78	23-Dec-10	09:40	122	134	115
29-Dec-10	80	29-Dec-10	09:40	126	129	113
Average (Range)	<b>91</b> (78 – 111)	Average (Range)		<b>122</b> (96 – 154)		

**Table 4-3 Summary of 24-hour and 1-hour TSP Monitoring Results – AM3**

Date	24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	1-hour TSP ( $\mu\text{g}/\text{m}^3$ )				
		Date	Start Time	1 <sup>st</sup> hour measured	2 <sup>nd</sup> hour measured	3 <sup>rd</sup> hour measured
1-Dec-10	117	1-Dec-10	14:00	141	152	159
7-Dec-10	125	7-Dec-10	14:00	168	175	182
13-Dec-10	101	13-Dec-10	14:00	145	136	148
17-Dec-10	95	17-Dec-10	14:00	183	178	194
23-Dec-10	94	23-Dec-10	14:00	162	150	169
29-Dec-10	88	29-Dec-10	14:00	155	152	164
Average (Range)	<b>103</b> (88 – 125)	Average (Range)		<b>162</b> (136 – 194)		

4.03 As shown in *Tables 4-1, 4-2 and 4-3*, 24-hour and 1-hour TSP results fluctuated well below the Action Level during the Reporting Period. No Notification of Exceedance (NOE) of 24-hour and 1-hour TSP air quality criteria or corrective action was therefore required.

4.04 The meteorological information during the impact monitoring days are summarized in *Appendix I*.

## 5 IMPACT MONITORING RESULTS – CONSTRUCTION NOISE

5.01 The noise monitoring results extracted from Contract DC/2007/18 are presented in the following sub-sections.

### Results of Construction Noise Monitoring

5.02 In this monthly report period, 5 construction noise monitoring events were undertaken at designated location NM1, NM2, RNM3 and NM4. The results for Leq30min, L10 and L90 at NM1, NM2, RNM3 and NM3 are summarized in *Tables 5-1, 5-2, 5-3 and 5-4* respectively. The construction noise monitoring data sheets are shown in *Appendix G*. Also, the graphical plots are shown in *Appendix H*.

**Table 5-1 Summarized of Construction Noise Monitoring Results at NM1**

Date	Time of Measurement	Parameter (dB(A))		
		Leq30min	L10	L90
1-Dec-10	09:40-10:10	60.3	62.8	58.1
7-Dec-10	09:50-10:20	61.0	63.7	58.4
13-Dec-10	09:45-10:15	61.8	64.2	58.8
23-Dec-10	10:50-11:20	62.3	64.8	58.9
29-Dec-10	10:15-10:45	63.3	65.8	59.2
<b>Limit Level</b>		<b>75 dB(A)</b>		

**Table 5-2 Summarized of Construction Noise Monitoring Results at NM2**

Date	Time of Measurement	Parameter (dB(A))		
		Leq30min	L10	L90
1-Dec-10	10:45-11:15	61.8	64.2	58.3
7-Dec-10	10:55-11:25	63.8	66.1	59.2
13-Dec-10	10:50-11:20	64.9	67.5	59.4
23-Dec-10	14:10-14:40	65.5	68.2	60.1
29-Dec-10	13:00-13:30	65.8	69.3	61.4
<b>Limit Level</b>		<b>75 dB(A)</b>		

**Table 5-3 Summarized of Construction Noise Monitoring Results at RNM3**

Date	Time of Measurement	Parameter (dB(A))		
		Leq30min	L10	L90
1-Dec-10	14:25-14:55	57.1	59.4	54.2
7-Dec-10	14:25-14:55	58.4	61.2	56.1
13-Dec-10	14:10-14:40	59.2	62.3	56.7
23-Dec-10	15:10-15:40	58.8	61.9	56.5
29-Dec-10	15:05-15:35	59.3	63.4	57.6
<b>Limit Level</b>		<b>75 dB(A)</b>		

**Table 5-4 Summarized of Construction Noise Monitoring Results at NM4**

Date	Time of Measurement	Parameter (dB(A))		
		Leq30min	L10	L90
1-Dec-10	15:20-15:50	60.6	63.2	58.4
7-Dec-10	15:20-15:50	60.3	62.6	57.5
13-Dec-10	15:10-15:40	60.6	62.9	57.8
23-Dec-10	16:10-16:40	60.3	63.1	58.2
29-Dec-10	16:10-16:40	61.6	64.4	59.1
<b>Limit Level</b>		<b>75 dB(A)</b>		

5.03 It was noted that no noise complaint (which is an Action Level exceedance) was received. In view of the results shown in *Tables 5-1, 5-2, 5-3 and 5-4* which were all below 75dB(A), no Action or Limit Level exceedance was triggered during this month.



## 6 IMPACT MONITORING RESULTS – WATER QUALITY

6.01 Due to marine water quality baseline monitoring still not yet completed, no marine works was commenced in the Project at Sok Kwu Wan. No impact water quality monitoring was undertaken in this reporting month and no results are presented accordingly in this section.

## 7 ECOLOGY

7.01 According to Clause 3.7 and Figure 4 in the Environmental Permit No. EP-281/2007/A, a total of 12 numbers *Celtis Timorensis* (uncommon species) in Chung Mei at Sok Kwu Wan, are identified to require labeling, fencing and protection. Out of these, four numbers located in the Pumping Station No.1 area are required to be transplanted in advance of pumping station construction and the transplantation proposal has been submitted to EPD previously.

7.02 Regular inspections were carried out on 23 November and 23 December 2010 by the landscaping sub-Contractor (Melofield Nursery and Landscape Contractor Limited) after the transplantation. A copy of the inspection reports are attached in **Appendix M**.

## 8 WASTE MANAGEMENT

8.01 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

### Records of Waste Quantities

8.02 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste;
- General Refuse; and
- Excavated Soil.

8.03 The quantities of waste for disposal in this Reporting Period are summarized in [Table 7-1](#) and [7-2](#) and the Monthly Summary Waste Flow Table is shown in [Appendix J](#). Whenever possible, materials were reused on-site as far as practicable

**Table 7-1 Summary of Quantities of Inert C&D Materials**

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) ('000m <sup>3</sup> )	0.019	Sok Kwu Wan Transfer Facility
Reused in the Contract (Inert) ('000m <sup>3</sup> )	0	-
Reused in other Projects (Inert) ('000m <sup>3</sup> )	0	-
Disposal as Public Fill (Inert) ('000m <sup>3</sup> )	0	Sok Kwu Wan Transfer Facility

**Table 7-2 Summary of Quantities of C&D Wastes**

Type of Waste	Quantity	Disposal Location
Recycled Metal (kg)	0	-
Recycled Paper / Cardboard Packing (kg)	0	-
Recycled Plastic (kg)	0	-
Chemical Wastes (kg)	0	-
General Refuses (tonne)	0.390	Sok Kwu Wan Transfer Facility

8.04 There was no site effluent discharged but the estimated volume of surface runoff was less than 50m<sup>3</sup> in this monthly period

**9 SITE INSPECTION**

- 9.01 According to the Environmental Monitoring and Audit Manual, the environmental site inspection should be formulated by ET Leader. Regular environmental site inspections had been carried out by the ET to confirm the environmental performance. In this reporting period, site inspection was carried out on **7, 14, 21 and 28 December 2010** after the relevant land work commencement at Sok Kwu Wan Portion Area on 27 July 2010. Besides, routine joint-site visit by IEC, RE, Leader and ET was carried out on **14 December 2010**.
- 9.02 The findings/ deficiencies that observed during the weekly site inspection are listed in **Table 8-1** and the relevant checklists are attached in **Appendix K**.

**Table 8-1 Site Observations**

<b>Date</b>	<b>Findings / Deficiencies</b>	<b>Follow-Up Status</b>
7 December 2010	<ul style="list-style-type: none"> <li>The capacity of sedimentation tank was full. The contractor should clear the sediment inside to restore the desilting facility functioning.</li> </ul>	The observations have been followed on 13 December 2010.
14 December 2010	<ul style="list-style-type: none"> <li>The stagnant water accumulated should be drained away or applied larvidical oil to prevent mosquitoes breeding. (PS2)</li> <li>The stagnant water accumulated should be drained away or applied larvidical oil to prevent mosquitoes breeding. (PS2)</li> <li>The house-keeping should be improved. (portion G)</li> <li>The un-used sedimentation tank should be covered with tarpaulin sheet or pumped the water away. (portion G)</li> </ul>	The observations have been followed during the site inspection on 21 December 2010.
21 December 2010	<ul style="list-style-type: none"> <li>No environmental issue was observed during the site inspection.</li> </ul>	Nil
28 December 2010	<ul style="list-style-type: none"> <li>No environmental issue was observed during the site inspection.</li> </ul>	Nil

## 10 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

10.01 No environmental complaint, summons and prosecution was received in this reporting period. The statistical summary table of environmental complaint is presented in *Tables 9-1, 9-2* and *9-3*.

**Table 9-1 Statistical Summary of Environmental Complaints**

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
27 Jul 2010 – 30 Nov 2010	0	0	NA
1 – 31 Dec 2010	0	0	NA

**Table 9-2 Statistical Summary of Environmental Summons**

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
27 Jul 2010 – 30 Nov 2010	0	0	NA
1 – 31 Dec 2010	0	0	NA

**Table 9-3 Statistical Summary of Environmental Prosecution**

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
27 Jul 2010 – 30 Nov 2010	0	0	NA
1 – 31 Dec 2010	0	0	NA

## 11 IMPLEMENTATION STATUS OF MITIGATION MEASURES

11.01 The environmental mitigation measures that recommended in the Sok Kwu Wan Environmental Monitoring and Audit Manual covered the issues of dust, noise, water and waste and they are summarized as following:

### Dust Mitigation Measure

11.02 Installation of 2m high solid fences around the construction site of Pumping Station P2 is recommended. Implementation of the requirements stipulated in the Air Pollution Control (Construction Dust) Regulation and the following good site practices are recommended to control dust emission from the site:

- (a) Stockpiles of imported material kept on site should be contained within hoardings, dampened and / or covered during dry and windy weather;
- (b) Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses;
- (c) Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like.
- (d) Any vehicle used for moving sands, aggregates and construction waste shall 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.

### Noise Mitigation Measure

11.03 As detailed in the EIA report, concreting work of the Pumping Station P1a and sewer alignment construction activities would likely cause adverse noise impacts on some of the noise sensitive receivers. Appropriate mitigation measures have therefore been recommended. The mitigation measures recommended in the EIA report are summarised below:

- (a) Use of quiet equipment for the construction activities of the Pumping Stations and sewer alignment;
- (b) Use of temporary noise barrier around the site boundary of Pumping Station P1a;
- (c) Use of kick ripper (saw and lift) method to replace the breaker for pavement removal during sewer alignment construction;
- (d) Restriction on the number of plant during sewer alignment construction;
- (e) Use of noise screening structures in the form of acoustic shed or movable barrier wherever practicable and feasible in areas with sufficient clearance and headroom during the construction of sewer alignment;
- (f) Adoption of manual working method wherever practicable and feasible in areas where the worksites of the proposed sewer alignment are located less than 20m from the residential noise sensitive receivers and less than 30m from the temple and the public library; and
- (g) Implementation of the following good site practices:
  - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.
  - Mobile plant, if any, should be sited as far away from NSRs as possible.
  - Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.
  - Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.
  - Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.

### Water Quality Mitigation Measure

11.04 No-dig method using Horizontal Directional Drilling (HDD) would be used for the installation of outfall pipe of about 480 m from shore to minimize the potential water quality impacts arising from the dredging works required for the submarine outfall construction. For the remaining outfall pipe of about 240m and the diffuser section, open trench dredging would still be required.

- 11.05 During the dredging works, the Contractor should be responsible for the design and implementation of the following mitigation measures.
- Dredging should be undertaken using closed grab dredgers with a total production rate of 55m<sup>3</sup>/hr;
  - Deployment of 2-layer silt curtains with first layer enclosing the grab and the second layer at around 50, from the dredging area while dredging works are in progress;
  - all vessels should be sized such that adequate clearance (i.e. minimum clearance of 0.6m) is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;
  - all pipe leakages should be repaired promptly and plant shall not be operated with leaking pipes;
  - excess material should be cleaned from the decks and exposed fittings of barges before the vessel is moved;
  - adequate freeboard (i.e. minimum of 200m) should be maintained on barges to ensure that decks are not washed by wave action;
  - all barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and
  - loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and barges and hoppers should not be filled to a level which would cause the overflow of materials or sediment laden water during loading or transportation; and
  - the decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.

#### Construction Run-off and Drainage

- 11.06 The Contractor should observe and comply with the Water Pollution Control Ordinance and the subsidiary regulations. The Contractor should follow the practices, and be responsible for the design, construction, operation and maintenance of all the mitigation measures as specified in ProPECC PN 1/94 “Construction Site Drainage”. The design of the mitigation measures should be submitted by the Contractor to the Engineer for approval. These mitigation measures should include the following practices to minimise site surface runoff and the chance of erosion, and also to retain and reduce any suspended solids prior to discharge:
- Provision of perimeter channels to intercept storm-runoff from outside the site. These should be constructed in advance of site formation works and earthworks.
  - Works programmes should be designed to minimize works areas at any one time, thus minimising exposed soil areas and reducing the potential for increased siltation and runoff.
  - Sand/silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove the sand/silt particles from run-off. These facilities should be properly and regularly maintained. These facilities shall be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site.
  - Careful programming of the works to minimise soil excavation works during rainy seasons.
  - Exposed soil surface should be protected by paving or hydroseeding as soon as possible to reduce the potential of soil erosion.
  - Trench excavation should be avoided in the wet season, and if necessary, these should be excavated and backfilled in short sections.
  - Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric.

#### General Construction Activities

- 11.07 Debris and rubbish generated on-site should be collected, handled and disposed of properly to avoid entering the nearby coastal waters and stormwater drains. All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. Open drainage channels and culverts near the works areas should be covered to block the entrance of large debris and refuse.

Wastewater Arising from Workforce

- 11.08 Portable toilets shall be provided by the Contractors, where necessary, to handle sewage from the workforce. The Contractor shall also be responsible for waste disposal and maintenance practices

**Sediment Contamination Mitigation Measure**

- 11.09 The basic requirements and procedures for dredged mud disposal are specified under the WBTC No. 34/2002. The management of the dredging, use and disposal of marine mud is monitored by the MFC, while the licensing of marine dumping is the responsibility of the Director of Environmental Protection (DEP).
- 11.10 The uncontaminated dredged sediment will be loaded onto barges and transported to the designated marine disposal site. Appropriate dredging methods have been incorporated into the recommended water quality mitigation measures including the use of closed-grab dredgers and silt curtains. Category L sediment would be suitable for disposal at a gazetted open sea disposal ground.
- 11.11 During transportation and disposal of the dredged marine sediments, the following measures should be taken to minimize potential impacts on water quality:
- Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.
  - Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels should be equipped with automatic self-monitoring devices as specified by the DEP.

**Construction Waste Mitigation Measure**

Good Site Practices and Waste Reduction Measures

- 11.12 It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are strictly followed. Recommendations for good site practices for the construction waste arising include:
- Nomination of an approved person, such as a site manager, to be responsible for the implementation of good site practices, arranging for collection and effective disposal to an appropriate facility, of all wastes generated at the site.
  - Training of site personnel in proper waste management and chemical handling procedures.
  - Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.
  - Provision of sufficient waste disposal points and regular collection for disposal.
  - Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Facility.
  - Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.
  - Maintain records of the quantities of wastes generated, recycled and disposed.
- 11.13 In order to monitor the disposal of C&D waste at landfills and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.
- 11.14 Good management and control can prevent the generation of significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:
- segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;

- to encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the work force;
- any unused chemicals or those with remaining functional capacity should be recycled;
- use of reusable non-timber formwork to reduce the amount of C&D material;
- prior to disposal of C&D waste, it is recommended that wood, steel and other metals should be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill;
- proper storage and site practices to minimise the potential for damage or contamination of construction materials; and
- plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.

#### General Site Wastes

- 11.15 A collection area should be provided where waste can be stored prior to removal from site. An enclosed and covered area is preferred for the collection of the waste to reduce 'wind blow' of light material.

#### Chemical Wastes

- 11.16 After use, chemical waste (eg. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Any unused chemicals or those with remaining functional capacity should be recycled. Spent chemicals should be properly stored on site within suitably designed containers, and should be collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licenced facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation under the Waste Disposal Ordinance.
- 11.17 Any service shop and minor maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakages and spillage should only be undertaken with the areas appropriately equipped to control these discharges.

#### Construction and Demolition Material

- 11.18 The C&D material should be separated on-site into three categories: (i) public fill, the inert portion of the C&D material (e.g. concrete and rubble), which should be re-used on-site or disposed of at a public filling area; (ii) C&D waste for re-use and/or recycling, the non-inert portion of the C&D material, (e.g. steel and other metals, wood, glass and plastic); (iii) C&D waste which cannot be re-used and/or recycled. The waste producers are responsible for its disposal at strategic landfills.
- 11.19 In order to minimise the impact resulting from collection and transportation of material for off-site disposal, it was recommended that inert material should be re-used on-site where possible. Prior to disposal of C&D material, it was also recommended that steel and other metals should be separated for re-use and/or recycling where practicable to minimise the quantity of waste to be disposed of to landfill.

#### Ecology Mitigation Measure

##### Terrestrial Ecology

- 11.20 The uncommon tree species should be labelled and probably fenced to avoid direct or indirect disturbance during construction. Works areas should avoid woodland habitats, in particular where these trees are located.
- 11.21 Construction and maintenance of site runoff control measures would be required at all work sites during construction. These should include barriers to direct runoff to sand/silt removal facilities (sand/silt/traps and/or sediment basins); minimisation of earthworks during rainy season (May to September); and coverage of sand/fill piles and exposed earth during storms.



- 11.22 Special attention should be paid during the breeding season of Romer’s Tree Frog (March to September) to ensure their habitat landward to Pumping Station P2 site is well protected from site runoff. Barriers should be deployed completely along the landward side of the pumping station site boundary to prevent any site runoff from entering the tree frog habitat. Intactness of the barriers should be frequently inspected.

Intertidal and Subtidal Ecology

- 11.23 Construction and maintenance of site runoff control measures would be required at all work sites during construction. These should include barriers to direct runoff to sand/silt removal facilities (sand/silt/traps and/or sediment basins); use of silt curtains along coastline; minimisation of earthworks during rainy season (May to September); and coverage of sand/fill piles and exposed earth during storms.
- 11.24 To reduce impacts of sediment resuspension upon nearby habitats and organisms during dredging, all dredging should be done using a closed-grab dredger, and silt curtains should be deployed around the dredger during all dredging activity

Fisheries Mitigation Measure

- 11.25 Closed grab dredger, deployment of silt curtains around the immediate dredging area and low dredging rate have been recommended in Water Quality of the EIA report in order to minimise sediment release into the water column.

Landscape & Visual Mitigation Measure

- 11.26 Mitigation measures recommended in the EIA Report for landscape and visual impacts during the construction stage are summarised below.
- Screening of site construction works by use of hoarding that is appropriate to its site context;
  - Retaining existing trees and minimising damage to vegetation where possible by close co-ordination and on site alignment adjusted of rising main and gravity sewer pipelines. Tree protective measures should be implemented to ensure trees identified as to be retained are satisfactorily protected during the construction phase;
  - Careful and efficient transplanting of affected trees (1 no.) to temporary or final transplant location (the proposed tree to be transported is a semi-mature *Macaranga tanarius* and is located at the proposed Pumping Station P2 location);
  - Short excavation and immediate backfilling of sections upon completion of works to reduce active site area;
  - Conservation of top-soil for reuse.
  - Night-time light source from marine fleets should be directed away from the residential units
- 11.27 The implementation schedule of mitigation measures is presented in [Appendix L](#).
- 11.28 Leader had been implementing the required environmental mitigation measures according to the Sok Kwu Wan Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by Leader in this Reporting Month are summarized in [Table 10-1](#).

**Table 10-1 Environmental Mitigation Measures**

Issues	Environmental Mitigation Measures
Water Quality	<ul style="list-style-type: none"> <li>• Drainage channels were provided to convey run-off into the treatment facilities; and</li> <li>• Drainage systems were regularly and adequately maintained.</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>• Cover all excavated or stockpile of dusty material by impervious sheeting or sprayed with water to maintain the entire surface wet;</li> <li>• Public roads around the site entrance/exit had been kept clean and free from dust; and</li> <li>• Tarpaulin covering of any dusty materials on a vehicle leaving the site.</li> </ul>

<b>Issues</b>	<b>Environmental Mitigation Measures</b>
Noise	<ul style="list-style-type: none"><li>• Good site practices to limit noise emissions at the sources;</li><li>• Use of quiet plant and working methods;</li><li>• Use of site hoarding or other mass materials as noise barrier to screen noise at ground level of NSRs; and</li><li>• To minimize plant number use at the worksite.</li></ul>
Waste and Chemical Management	<ul style="list-style-type: none"><li>• Excavated material should be reused on site as far as possible to minimize off-site disposal. Scrap metals or abandoned equipment should be recycled if possible;</li><li>• Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner;</li><li>• The Contractor should adopt a trip ticket system for the disposal of C&amp;D materials to any designed public filling facility and/or landfill; and</li><li>• Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.</li></ul>
General	<ul style="list-style-type: none"><li>• The site was generally kept tidy and clean.</li></ul>

## 12 IMPACT FORECAST

12.01 Key issues to be considered in the coming month include:

### Water Quality

- Erect of sand bag in proper area to avoid any muddy surface runoff from the loose soil surface or haul road during the rainy days; and
- The accumulated stagnant water should be drained away.

### Air Quality

- Vehicles shall be cleaned of mud and debris before leaving the site;
- Stockpile and loose soil surface shall be covered with tarpaulin sheet or other means to eliminate the fugitive dust;
- Water spraying on the dry haul road and exit/entrance of the site in regular basis is reminded; and
- Public roads around the site entrance/exit had been kept clean and free from dust.

### Noise

- Works and equipment should be located to minimize noise nuisance from the nearest sensitive receiver; and
- Idle equipments should be either turned off or throttled down;

### Waste and Chemical Management

- Housekeeping on site shall be improved;
- The Contractor is advised to fence off the construction waste at a designated area in order to maintain the tidiness of the site;
- Drip tray and proper label should be provided for all chemical containers.
- C&D waste should be disposed in regular basis.

### 13 CONCLUSIONS AND RECOMMENDATIONS

#### CONCLUSIONS

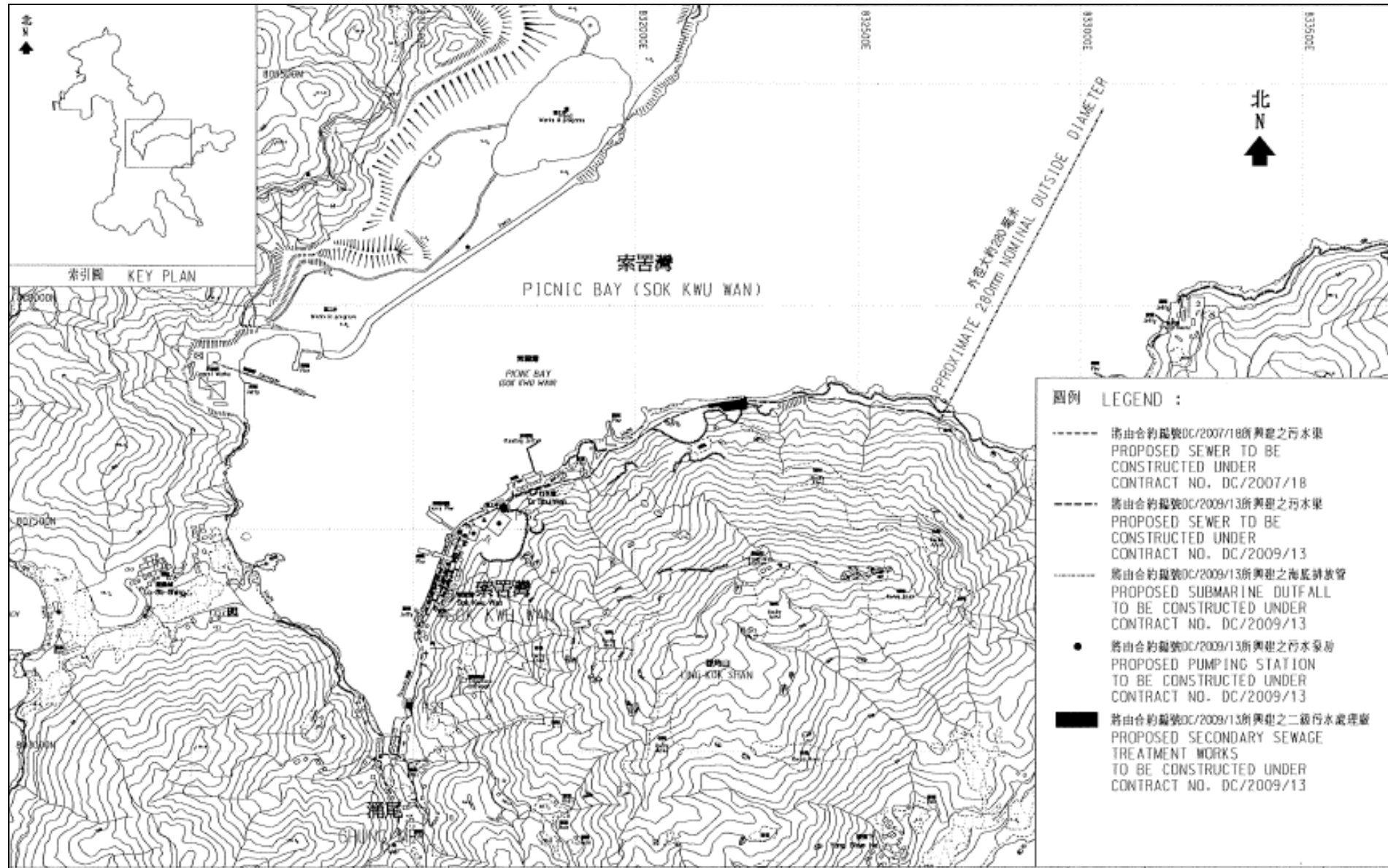
- 13.01 This is the **5<sup>th</sup>** Monthly EM&A Report covering the construction period from **1 to 31 December 2010** (the Reporting Period).
- 13.02 No 1-hour TSP or 24-hr TSP monitoring results was found to be triggered the Action or Limit Level in this Reporting Period.
- 13.03 No noise complaint (an Action Level exceedance) was received and no construction noise measurement results that exceeded the Limit Level were recorded in this reporting month.
- 13.04 No impact water quality monitoring was undertaken in this reporting month and baseline monitoring is in progress.
- 13.05 No documented complaint, notification of summons or successful prosecution was received.
- 13.06 In this reporting period, site inspection was carried out on **7, 14, 21 and 28 December 2010** after the relevant land work commencement at Sok Kwu Wan Portion Area on 27 July 2010. Besides, routine joint-site visit by IEC, RE, Leader and ET was carried out on **14 December 2010**. All the observation has been rectified during the next week site inspection. The environmental performance of the Project was therefore considered as satisfactory.

#### RECOMMENDATIONS

- 13.07 During dry season, special attention should be paid to the dust mitigation measures to avoid fugitive dust emissions from loose soil surface or haul road. Nevertheless, mitigation measures implemented for control the surface runoff including wheel wash facilities, covering of the loose soil surface or stockpile with tarpaulin sheet, etc., should fully implement.
- 13.08 Muddy water and other water quality pollutants via site surface water runoff into the sea body within Fish culture zone at Picnic Bay and the Secondary recreation contact subzone at Mo Tat Wan is the key issue of the Project. Mitigation measures for water quality should be properly maintained to prevent any muddy or sandy runoff from the loose soil surface overflow on the site boundary.
- 13.09 Construction of outfall marine works cannot be carried out. The work perform should be until to the baseline water quality monitoring completion and the related Action and Limit (A/L) levels establishment.

## **Appendix A**

### **Site Layout Plan – Sok Kwu Wan Portion Area**



## **Appendix B**

### **Organization Structure and Contact Details of Relevant Parties**

Contact Details of Key Personnel

<b>Organization</b>	<b>Project Role</b>	<b>Name of Key Staff</b>	<b>Tel No.</b>	<b>Fax No.</b>
DSD	Employer	Mr. AU Chi Kwong	-	-
SCJV	Engineer's Representative	Mr. Neil Wong	2982 0240	2982 4129
SCJV	Resident Engineer	Mr. Alfred Cheung	2982 0240	2982 4129
Scott Wilson	Independent Environmental Checker	Mr. Rodney Ip	2410 3750	2428 9922
Leader	Project Manager	Mr. Wilfred So	2982 1750	2982 1163
Leader	Site Agent/ Environmental Officer	Mr. Vincent Chan	2982 1750	2982 1163
Leader	Section Engineer	Mr. Burgess Yip	2982 1750	2982 1163
Leader	Safety Officer	Mr. Edwin Leung	2982 1750	2982 1163
AUES	Environmental Team Leader	Mr. T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959 6059	2959 6079
AUES	Assistance Environmental Consultant	Mr. Ray Cheung	2959 6059	2959 6079
AUES	Team Supervisor	Mr. Ben Tam	2959 6059	2959 6079

Legend:

*DSD (Employer) – Drainage Services Department*

*CDM (Engineer) – Scott Wilson CDM Joint Venture*

*Leader (Main Contractor) – Leader Civil Engineering Corporation Limited*

*Scott Wilson (IEC) – Scott Wilson Limited*

*AUES (ET) – Action-United Environmental Services & Consulting*



## **Appendix C**

### **A Master and Three Months Rolling Construction Programs**

Activity ID	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	2010	2011	2012	2013	2014	2015	2016	2017	2018	
<b>Project Key Date</b>																
KD0010	0	05/05/10 A	05/05/10 A		05/05/10 A		Receive Letter of Acceptance									
KD0020	0	17/05/10 A	17/05/10 A		17/05/10 A		Project Commencement Date									
KD0030	0	15/08/11 *	15/08/11 *		15/08/11 *	0 *	Section W1 - Slope Works in Portion A & C (456d)									
KD0040	0	14/02/14 *	14/02/14 *		14/02/14 *	0 *	Section W2 - YSW STW & Submarine Outfall (1370d)									
KD0050	0	13/02/11 *	13/02/11 *		13/02/11 *	0 *	Section W3 - Footpath Diversion in Ptn G (273d)									
KD0060	0	15/08/11 *	15/08/11 *		15/08/11 *	0 *	Section W4 - Slope Works in Portios H & I (456d)									
KD0070	0	15/11/11 *	15/11/11 *		15/11/11 *	0 *	Section W5 - P.S. No. 1 in Portion D (548d)									
KD0080	0	15/11/11 *	15/11/11 *		15/11/11 *	0 *	Section W6 - Sewer & PS No2 in Ptn. E & F (548d)									
KD0090	0	14/02/14 *	14/02/14 *		14/02/14 *	0 *	Section W7 - SKW STW, RM & Sm. Outfall (1370d)									
KD0100	0	15/08/12 *	15/08/12 *		15/08/12 *	0 *	Section W8 - Landscape Softworks (822d)									
KD0110	0	15/08/13 *	15/08/13 *		15/08/13 *	0 *	Section W9 - Establishment Works (1187d)									
KD0115	0	30/06/11 *	30/06/11 *		30/06/11 *	0 *	Start Operate Temp. Sewage Treatment in Port. A&H									
KD0125	0	14/02/14 *	14/02/14 *		14/02/14 *	0 *	Project Completion									
<b>Preliminary (Civil)</b>																
PRE0020	60	17/05/10	15/07/10	19/05/10	17/07/10 *	2d	Pre-condition Survey									
PRE0040	60	17/05/10 *	15/07/10	19/05/10	17/07/10 *	2d	Erection of Engineer's Site Accommodation at YSW									
PRE0050	75	17/05/10	30/07/10	18/05/10	31/07/10 *	1d	Taking over the Secondary Engineer's Site Accom									
PRE0060	60	17/05/10	15/07/10	18/05/10	16/07/10 *	1d	Application of Consent from Marine Department									
PRE0090	120	17/05/10	13/09/10	17/09/10	14/01/11	123d	Working Group Meeting for Outfall Construction									
PRE0100	120	17/05/10	13/09/10	17/05/10	13/09/10	0	Application & Consent of XP from HyD (Mo Tat Rd)									
PRE0130	90	17/05/10	14/08/10	18/05/10	15/08/10 *	1d	Setup Web-site for EM&A Reporting									
<b>Preliminary (E&amp;M)</b>																
<b>Technical Submission</b>																
<b>Process Design of SKWSTW &amp; YSWSTW</b>																
E&M0010	38	17/05/10	23/06/10	17/05/10	23/06/10	0	Submission									
E&M0020	21	24/06/10	14/07/10	24/06/10	14/07/10	0	Vetting and Comment by ER									
E&M0030	28	15/07/10	11/08/10	20/05/11	16/06/11	309d	Revision and Resubmission									
E&M0080	14	12/08/10	25/08/10	17/06/11	30/06/11	309d	Approval from the Engineer									
<b>Hydraulic Design</b>																
E&M0040	21	15/07/10	04/08/10	15/07/10	04/08/10	0	Submission									
E&M0050	14	05/08/10	18/08/10	27/05/11	09/06/11	295d	Vetting and Comment by ER									
E&M0060	14	19/08/10	01/09/10	10/06/11	23/06/11	295d	Revision and Resubmission									
E&M0430	7	02/09/10	08/09/10	24/06/11	30/06/11	295d	Approval from the Engineer									
<b>Equipment Submission &amp; Approval</b>																
E&M0070	50	17/05/10	05/07/10	08/06/10	27/07/10	22d	Submission of Membrane Module									
E&M0090	14	06/07/10	19/07/10	28/07/10	10/08/10	22d	Vetting and Comment by ER									
E&M0100	14	20/07/10	02/08/10	11/08/10	24/08/10	22d	Revision and Resubmission									
E&M0101	90	05/08/10	02/11/10	05/08/10	02/11/10	0	Submission of Equipment									
E&M0102	60	03/11/10	01/01/11	03/11/10	01/01/11	0	Vetting and Comment by ER									
E&M0103	60	02/01/11	02/03/11	02/01/11	02/03/11	0	Revision and Resubmission									
E&M0110	30	03/03/11	01/04/11	03/03/11	01/04/11	0	Approval on Coarse Screens									
E&M0120	30	03/03/11	01/04/11	03/03/11	01/04/11	0	Approval on Fine Screens									
E&M0130	30	03/03/11	01/04/11	03/03/11	01/04/11	0	Approval on Pumps									
E&M0140	30	03/03/11	01/04/11	03/04/11	02/05/11	31d	Approval on Submersible Mixers									
E&M0150	30	03/03/11	01/04/11	19/03/11	17/04/11	16d	Approval on Grit Removal Equipment									
E&M0160	60	03/08/10	01/10/10	25/08/10	23/10/10	22d	Approval on MBR Membrane Modules (M.M.)									
E&M0170	30	03/03/11	01/04/11	03/03/11	01/04/11	0	Approval on Sludge Dewatering Equipment									
E&M0180	30	03/03/11	01/04/11	18/05/11	16/06/11	76d	Approval on Valves, Pipes & Fittings									
E&M0190	30	03/03/11	01/04/11	18/05/11	16/06/11	76d	Approval on Penstocks									
E&M0200	30	03/03/11	01/04/11	01/08/11	30/08/11	151d	Approval on Instrumentation									
E&M0210	30	03/03/11	01/04/11	03/03/11	01/04/11	0	Approval on MCC & LVSB									
E&M0220	30	03/03/11	01/04/11	11/06/11	10/07/11	100d	Approval on BS Equipment									
E&M0230	30	03/03/11	01/04/11	01/06/11	30/06/11	90d	Approval on FS Equipment									
<b>Drawings Submission &amp; Approval</b>																
E&M0235	60	24/06/10	22/08/10	12/01/11	12/03/11	202d	Sub. P&DI Drawings									
E&M0240	45	05/08/10	18/09/10	18/12/10	31/01/11	135d	Sub. Plant GA Drawings									
E&M0250	45	05/08/10	18/09/10	18/12/10	31/01/11	135d	Sub. Civil Works Requirements Drawings									
E&M0260	90	19/09/10	17/12/10	13/03/11	10/06/11	175d	Sub. Mechanical Installation Drawings									
E&M0270	120	19/09/10	16/01/11	11/02/11	10/06/11	145d	Sub. Electrical Installation Drawings									
E&M0280	120	19/09/10	16/01/11	11/02/11	10/06/11	145d	Sub. BS Installation Drawings									
E&M0290	120	19/09/10	16/01/11	01/02/11	31/05/11	135d	Sub. FS Installation Drawings									
<b>Statutory Submission</b>																
E&M0295	39	02/04/11	10/05/11	01/07/11	08/08/11	90d	Preparation of Submission to HEC									
E&M0300	150	11/05/11	07/10/11	09/08/11	05/01/12	90d	Application & Approval from HEC									
E&M0305	180	08/10/11	04/04/12	06/01/12	03/07/12	90d	Provision of Cables to the STWs									
E&M0320	14	02/04/11	15/04/11	15/04/12	28/04/12	379d	Form 314 Submission to FSD									
E&M0325	14	16/04/11	29/04/11	29/04/12	12/05/12	379d	Submission to WSD									
E&M0330	28	29/09/11	26/10/11	12/07/12	08/08/12	287d	Form 501 Submission to FSD (YSW)									
E&M0340	28	29/09/11	26/10/11	12/07/12	08/08/12	287d	Form 501 Submission to FSD (SKW)									
E&M0350	28	15/04/11	12/05/11	18/01/14	14/02/14	1009d	Form 501 Submission to FSD (PS1 & PS2)									
<b>+Yung Shue Wan</b>																
	1370	17/05/10	14/02/14	17/05/10	14/02/14	0										
<b>Sok Kwu Wan</b>																
<b>Preliminary</b>																
SKW0250	16	17/05/10	01/06/10	17/05/10	01/06/10	0	Approval of Environmental Team									
SKW0260	14	02/06/10	15/06/10	02/06/10	15/06/10	0	Baseline monitoring (Air & Noise)									
SKW0270	213	16/06/10	14/01/11	16/06/10	14/01/11	0	Baseline monitoring (Water)									
<b>Section W3 - Footpath Diversion in Portion G</b>																
<b>Civil &amp; Geotechnical Works</b>																
SKW0240	21	17/05/10	06/06/10	17/05/10	06/06/10	0	Site Clearance									

Start date	05/05/10	■ Early bar
Finish date	14/02/14	■ Progress bar
Data date	17/05/10	■ Critical bar
Run date	11/08/10	■ Summary bar
Page number	1A	▲ Progress point
		▼ Critical point
		■ Summary point
		◆ Start milestone point
		◆ Finish milestone point

**Leader Civil Engineering Corp. Ltd.**  
**Contract No. DC/2009/13**  
**Construction of Sewage Treatment Works at YSW & SKW**  
**Works Programme (Rev. 1)**

Date	Revision	Checked	Approved
17/05/10	Revision 0	StL	VC
31/07/10	Revision 1	StL	VC

Activity ID	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	2010	2011	2012	2013	2014	2015	2016	2017	2018	
SKW0241	9	07/06/10	15/06/10	07/06/10	15/06/10	0	Initial Survey									
SKW0242	57	16/06/10	11/08/10	16/06/10	11/08/10	0	Excavation to formation for Bay 1 to 5									
SKW0251	21	12/08/10	01/09/10	12/08/10	01/09/10	0	Drill & install Dowel Bar for Bay 1 & 3									
SKW0301	14	02/09/10	15/09/10	02/09/10	15/09/10	0	Erect Formwork, mesh & weep hole for Bay 1 & 3									
SKW0311	14	16/09/10	29/09/10	16/09/10	29/09/10	0	Concreting for Bay 1 & 3									
SKW0321	7	30/09/10	06/10/10	30/09/10	06/10/10	0	Drilling & install Dowel Bar for Bay 2 & 5									
SKW0331	7	07/10/10	13/10/10	07/10/10	13/10/10	0	Erect Formwork, mesh & weep hole for Bay 2 & 5									
SKW0341	7	14/10/10	20/10/10	14/10/10	20/10/10	0	Concreting for Bay 2 & 5									
SKW0351	21	21/10/10	10/11/10	21/10/10	10/11/10	0	Excavation to formation for Bay 6 to 9									
SKW0361	6	11/11/10	16/11/10	11/11/10	16/11/10	0	Drill & install dowel Bar for Bay 4 & 7									
SKW0371	7	17/11/10	23/11/10	17/11/10	23/11/10	0	Erect formwork, mesh & weep hole for Bay 4 & 7									
SKW0381	7	24/11/10	30/11/10	24/11/10	30/11/10	0	Concreting for Bay 4 & 7									
SKW0391	3	01/12/10	03/12/10	01/12/10	03/12/10	0	Drill & install dowel Bar for Bay 6 & 9									
SKW0401	7	04/12/10	10/12/10	04/12/10	10/12/10	0	Erect formwork, mesh & weep hole for Bay 6 & 9									
SKW0411	7	11/12/10	17/12/10	11/12/10	17/12/10	0	Concreting for Bay 6 & 9									
SKW0421	1	18/12/10	18/12/10	18/12/10	18/12/10	0	Drill & install dowel Bar for Bay 8									
SKW0431	4	19/12/10	22/12/10	19/12/10	22/12/10	0	Erect formwork, mesh & weep hole for Bay 8									
SKW0441	4	23/12/10	26/12/10	23/12/10	26/12/10	0	Concreting for Bay 8									
SKW0461	3	27/12/10	29/12/10	27/12/10	29/12/10	0	Excavation for no fine concrete Bay (1-9)									
SKW0471	7	30/12/10	05/01/11	30/12/10	05/01/11	0	Concreting for no-fine concrete									
SKW0481	14	06/01/11	19/01/11	06/01/11	19/01/11	0	Installation of Wall tie & stone facing									
SKW0491	7	06/01/11	12/01/11	06/01/11	12/01/11	0	Construction of Gabion Wall									
SKW0501	3	06/01/11	08/01/11	06/01/11	08/01/11	0	Place Geotextile									
SKW0511	7	09/01/11	15/01/11	09/01/11	15/01/11	0	Backfill behind the retaining wall to approx. +4									
SKW0521	14	16/01/11	29/01/11	16/01/11	29/01/11	0	Utilities Laying and diversion									
SKW0531	7	30/01/11	05/02/11	30/01/11	05/02/11	0	Concreting for Pavement									
SKW0541	7	06/02/11	12/02/11	06/02/11	12/02/11	0	Installation of Flower Pot									
SKW0551	1	13/02/11	13/02/11	13/02/11	13/02/11	0	Permanent Footpath Diversion									
<b>Section W4 - Slope Works in Portions H &amp; I</b>																
<b>Geotechnical Works</b>																
SKW0588	30	15/06/10	14/07/10	15/06/10	14/07/10	0	Construct scaffolding access									
SKW0590	100	15/07/10	22/10/10	15/07/10	22/10/10	0	Site Clearance for Slope									
SKW0591	28	21/09/10	18/10/10	21/09/10	18/10/10	0	Initial Survey for Slope									
SKW0592	80	19/10/10	06/01/11	19/10/10	06/01/11	0	Temporary Rockfall fence at ex. Footpath									
SKW0593	200	28/11/10	15/06/11	28/11/10	15/06/11	0	Cut Slope									
SKW0594	248	11/12/10	15/08/11	11/12/10	15/08/11	0	Road & Drains Works									
SKW0595	260	29/11/10	15/08/11	29/11/10	15/08/11	0	Rock Meshing & Rockfall Fence									
<b>Section W5 - P.S. No. 1 in Portion D</b>																
<b>Civil &amp; Geotechnical Works</b>																
SKW0651	7	17/05/10	23/05/10	17/05/10	23/05/10	0	Site Clearance									
SKW0652	7	24/05/10	30/05/10	24/05/10	30/05/10	0	Initial Survey									
SKW0661	30	31/05/10	29/06/10	31/05/10	29/06/10	0	Transplantation for uncommon vegetation									
SKW0681	49	30/06/10	17/08/10	30/06/10	17/08/10	0	Excavate to lower the working platform to +3mPD									
SKW0691	40	18/08/10	26/09/10	18/08/10	26/09/10	0	ELS to +2.2mPD									
SKW0721	92	17/09/10	17/12/10	17/09/10	17/12/10	0	Excavate to formation									
<b>Structural Works</b>																
SKW0741	15	18/12/10	01/01/11	18/12/10	01/01/11	0	Base Slab (BSD2 & BSD3)									
SKW0751	14	01/01/11	14/01/11	01/01/11	14/01/11	0	Wall & Column (CA1-3, CB1-3, CC1-3, CD1-2) Approx.									
SKW0761	14	14/01/11	27/01/11	14/01/11	27/01/11	0	Base Slab (BSD1) to +3.98									
SKW0771	14	27/01/11	09/02/11	27/01/11	09/02/11	0	Wall & Column (CA1-3, CB1-3, CC1-3, CD1-2) to +6.3									
SKW0781	14	09/02/11	22/02/11	09/02/11	22/02/11	0	Base Slab (GSE1-3, GSC1-5, GSD1-2)									
SKW0791	14	22/02/11	07/03/11	22/02/11	07/03/11	0	Base Slab (GSE1 & GSF1)									
SKW0801	14	07/03/11	20/03/11	07/03/11	20/03/11	0	Wall & Column (CE1-3, CF1-3)									
SKW0811	14	21/03/11	03/04/11	21/03/11	03/04/11	0	Ground Beam (GB1-1.2 GB2-1.2 GB3-1, GBA-1, GBB1-4									
SKW0821	14	04/04/11	17/04/11	04/04/11	17/04/11	0	Wall & Column (CA1-3, CB1-3, CC1-3, CD1-2) to +10.									
SKW0831	14	18/04/11	01/05/11	18/04/11	01/05/11	0	Roof Beams & Parapet									
SKW0841	45	18/04/11	01/06/11	18/04/11	01/06/11	0	ABWF installation									
SKW0861	168	02/05/11	16/10/11	01/06/11	15/11/11	30d	300mm U-channel & 675mm Step Channel									
<b>E&amp;M Works (PS1)</b>																
<b>Submission &amp; Delivery</b>																
E&M1001	113	17/05/10	06/09/10	10/11/10	02/03/11	177d	Submission of Pumps									
E&M1002	143	17/05/10	06/10/10	11/10/10	02/03/11	147d	Submission of Gen-Set									
E&M1003	133	17/05/10	26/09/10	21/10/10	02/03/11	157d	Submission of DeO System									
E&M1004	180	17/05/10	12/11/10	04/09/10	02/03/11	110d	Submission of LV SB & MCC									
E&M1005	180	17/05/10	12/11/10	04/09/10	02/03/11	110d	Submission of Instrumentation									
E&M1006	213	17/05/10	15/12/10	02/08/10	02/03/11	77d	Submission of FS System									
E&M1007	213	17/05/10	15/12/10	02/08/10	02/03/11	77d	Submission of BS System									
E&M1011	60	07/09/10	05/11/10	03/03/11	01/05/11	177d	Delivery of Pumps									
E&M1012	60	07/10/10	05/12/10	03/03/11	01/05/11	147d	Delivery of Gen-Set									
E&M1013	60	27/09/10	25/11/10	03/03/11	01/05/11	157d	Delivery of DeO System									
E&M1014	60	13/11/10	11/01/11	03/03/11	01/05/11	110d	Delivery of LV SB & MCC									
E&M1015	60	13/11/10	11/01/11	03/03/11	01/05/11	110d	Delivery of Instrumentation									
E&M1016	60	16/12/10	13/02/11	03/03/11	01/05/11	77d	Delivery of FS Equipment									
E&M1017	60	16/12/10	13/02/11	03/03/11	01/05/11	77d	Delivery of BS Equipment									
<b>Installation, T&amp;C</b>																
E&M1101	55	02/05/11	25/06/11	02/05/11	25/06/11	0	Install Pumps									
E&M1102	55	02/05/11	25/06/11	02/05/11	25/06/11	0	Install Gen Set									
E&M1103	55	02/05/11	25/06/11	02/05/11	25/06/11	0	Install DeO System									
E&M1104	55	02/05/11	25/06/11	02/05/11	25/06/11	0	Install LV SB & MCC									
E&M1105	55	02/05/11	25/06/11	02/05/11	25/06/11	0	Install Instrumentation									
E&M1106	55	02/05/11	25/06/11	02/05/11	25/06/11	0	Install FS Equipment									
E&M1107	55	02/05/11	25/06/11	02/05/11	25/06/11	0	Install BS Equipment									
E&M1110	46	26/06/11	10/08/11	27/08/11	11/10/11	62d	Install Valves, Pipes & Fittings									

Start date	05/05/10	Early bar
Finish date	14/02/14	Progress bar
Data date	17/05/10	Critical bar
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Page number	2A	Progress point
		Critical point
		Summary point
		Start milestone point
		Finish milestone point

**Leader Civil Engineering Corp. Ltd.**  
**Contract No. DC/2009/13**  
**Construction of Sewage Treatment Works at YSW & SKW**  
**Works Programme (Rev. 1)**

Date	Revision	Checked	Approved
17/05/10	Revision 0	StL	VC
31/07/10	Revision 1	StL	VC

Activity ID	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	2010	2011	2012	2013	2014	2015	2016	2017	2018
E&M1120	7	11/08/11	17/08/11	12/10/11	18/10/11	62d									
E&M1130	28	18/08/11	14/09/11	19/10/11	15/11/11	62d									
E&M1140	43	26/06/11	07/08/11	26/06/11	07/08/11	0									
E&M1150	7	08/08/11	14/08/11	08/08/11	14/08/11	0									
E&M1160	3	15/08/11	17/08/11	15/08/11	17/08/11	0									
E&M1170	30	18/08/11	16/09/11	18/08/11	16/09/11	0									
E&M11800	60	17/09/11	15/11/11	17/09/11	15/11/11	0									
<b>Section W6 - Sewer and PS No.2 in Portions E&amp;H</b>															
<b>Civil &amp; Geotechnical Works</b>															
SKW0881	7	17/05/10	23/05/10	17/05/10	23/05/10	0									
SKW0891	7	17/05/10	23/05/10	17/05/10	23/05/10	0									
SKW0892	30	24/05/10	22/06/10	24/05/10	22/06/10	0									
SKW0901	30	23/06/10	22/07/10	23/06/10	22/07/10	0									
SKW0921	14	23/07/10	05/08/10	23/07/10	05/08/10	0									
SKW0931	14	06/08/10	19/08/10	06/08/10	19/08/10	0									
SKW0951	106	20/08/10	03/12/10	20/08/10	03/12/10	0									
SKW0961	257	04/12/10	17/08/11	04/03/11	15/11/11	90d									
SKW1491	180	14/09/10	12/03/11	14/09/10	12/03/11	0									
SKW1511	180	13/03/11	08/09/11	13/03/11	08/09/11	0									
SKW1531	34	09/09/11	12/10/11	09/09/11	12/10/11	0									
SKW1581	34	13/10/11	15/11/11	13/10/11	15/11/11	0									
<b>Structural Works</b>															
SKW0971	14	04/12/10	17/12/10	04/12/10	17/12/10	0									
SKW0981	14	18/12/10	31/12/10	18/12/10	31/12/10	0									
SKW0991	14	01/01/11	14/01/11	01/01/11	14/01/11	0									
SKW1001	14	15/01/11	28/01/11	15/01/11	28/01/11	0									
SKW1011	14	29/01/11	11/02/11	29/01/11	11/02/11	0									
SKW1021	20	12/02/11	03/03/11	12/02/11	03/03/11	0									
SKW1031	14	04/03/11	17/03/11	04/03/11	17/03/11	0									
SKW1041	14	18/03/11	31/03/11	18/03/11	31/03/11	0									
SKW1051	14	01/04/11	14/04/11	01/04/11	14/04/11	0									
SKW1061	90	01/04/11	29/06/11	01/04/11	29/06/11	0									
SKW1081	215	15/04/11	15/11/11	15/04/11	15/11/11	0									
<b>E&amp;M Works (PS2)</b>															
<b>Submission &amp; Delivery</b>															
E&M2001	113	17/05/10	06/09/10	17/05/10	06/09/10	0									
E&M2002	143	17/05/10	06/10/10	17/05/10	06/10/10	0									
E&M2003	133	17/05/10	26/09/10	17/05/10	26/09/10	0									
E&M2004	271	17/05/10	11/02/11	17/05/10	11/02/11	0									
E&M2005	243	17/05/10	14/01/11	17/05/10	14/01/11	0									
E&M2006	213	17/05/10	15/12/10	17/05/10	15/12/10	0									
E&M2007	213	17/05/10	15/12/10	17/05/10	15/12/10	0									
E&M2011	282	07/09/10	15/06/11	07/09/10	15/06/11	0									
E&M2012	252	07/10/10	15/06/11	07/10/10	15/06/11	0									
E&M2013	262	27/09/10	15/06/11	27/09/10	15/06/11	0									
E&M2014	62	12/02/11	14/04/11	12/02/11	14/04/11	0									
E&M2015	90	15/01/11	14/04/11	15/01/11	14/04/11	0									
E&M2016	120	16/12/10	14/04/11	16/12/10	14/04/11	0									
E&M2017	120	16/12/10	14/04/11	16/12/10	14/04/11	0									
<b>Installation, T&amp;C</b>															
E&M2101	60	16/06/11	14/08/11	16/06/11	14/08/11	0									
E&M2102	60	16/06/11	14/08/11	16/06/11	14/08/11	0									
E&M2103	60	16/06/11	14/08/11	16/06/11	14/08/11	0									
E&M2104	60	15/04/11	13/06/11	15/04/11	13/06/11	0									
E&M2105	60	15/04/11	13/06/11	15/04/11	13/06/11	0									
E&M2106	60	15/04/11	13/06/11	15/04/11	13/06/11	0									
E&M2107	60	15/04/11	13/06/11	15/04/11	13/06/11	0									
E&M2110	58	15/08/11	11/10/11	15/08/11	11/10/11	0									
E&M2120	7	12/10/11	18/10/11	12/10/11	18/10/11	0									
E&M2130	28	19/10/11	15/11/11	19/10/11	15/11/11	0									
E&M2140	55	14/06/11	07/08/11	14/06/11	07/08/11	0									
E&M2150	7	08/08/11	14/08/11	08/08/11	14/08/11	0									
E&M2160	3	15/08/11	17/08/11	15/08/11	17/08/11	0									
E&M2170	30	18/08/11	16/09/11	18/08/11	16/09/11	0									
E&M2180	60	17/09/11	15/11/11	17/09/11	15/11/11	0									
<b>Section W7 - SKW STW, Sewer and Submarine Outfall</b>															
<b>Submarine Outfall</b>															
SKW1131	60	17/05/10	15/07/10	17/05/10	15/07/10	0									
SKW1141	183	16/07/10	14/01/11	16/07/10	14/01/11	0									
SKW1151	185	15/01/11	18/07/11	15/01/11	18/07/11	0									
SKW1161	90	19/07/11	16/10/11	19/07/11	16/10/11	0									
SKW1171	120	17/10/11	13/02/12	17/10/11	13/02/12	0									
SKW1181	60	14/02/12	13/04/12	14/02/12	13/04/12	0									
SKW1191	30	14/04/12	13/05/12	14/04/12	13/05/12	0									
SKW1201	210	14/05/12	09/12/12	14/05/12	09/12/12	0									
SKW1211	180	10/12/12	07/06/13	10/12/12	07/06/13	0									
SKW1221	57	08/06/13	03/08/13	08/06/13	03/08/13	0									
SKW1231	60	04/08/13	02/10/13	04/08/13	02/10/13	0									
SKW1241	60	03/10/13	01/12/13	03/10/13	01/12/13	0									
SKW1251	45	02/12/13	15/01/14	02/12/13	15/01/14	0									
SKW1431	30	16/01/14	14/02/14	16/01/14	14/02/14	0									
<b>SKW STW</b>															
<b>Submission &amp; Delivery (E&amp;M)</b>															

Start date	05/05/10		Early bar
Finish date	14/02/14		Progress bar
Data date	17/05/10		Critical bar
Run date	11/08/10		Summary bar
Page number	3A		Progress point
			Critical point
			Summary point
			Start milestone point
			Finish milestone point

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17/05/10	Revision 0	StL	VC
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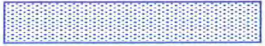








Activity ID	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float	2010	2011	2012	2013	2014	2015	2016	2017	2018
E&M3010	150	02/10/10	28/02/11	21/08/11	17/01/12	323d									
E&M3030	180	02/04/11	28/09/11	18/04/11	14/10/11	16d									
E&M3060	136	02/04/11	15/08/11	02/04/11	15/08/11	0									
E&M3070	136	02/04/11	15/08/11	02/04/11	15/08/11	0									
E&M3080	180	02/04/11	28/09/11	03/05/11	29/10/11	31d									
E&M3090	210	02/04/11	28/10/11	18/07/11	12/02/12	107d									
E&M3100	180	02/04/11	28/09/11	17/06/11	13/12/11	76d									
E&M3110	180	02/04/11	28/09/11	17/06/11	13/12/11	76d									
E&M3130	180	02/04/11	28/09/11	31/08/11	26/02/12	151d									
E&M3140	180	02/04/11	28/09/11	09/05/11	04/11/11	37d									
E&M3150	180	02/04/11	28/09/11	11/07/11	06/01/12	100d									
E&M3160	180	02/04/11	28/09/11	30/07/11	25/01/12	119d									
<b>Construction of Grid A-G</b>															
SKW1261	164	14/02/11	27/07/11	14/02/11	27/07/11	0									
SKW1271	25	28/07/11	21/08/11	28/07/11	21/08/11	0									
SKW1281	25	22/08/11	15/09/11	22/08/11	15/09/11	0									
SKW1291	25	16/09/11	10/10/11	16/09/11	10/10/11	0									
SKW1301	25	11/10/11	04/11/11	11/10/11	04/11/11	0									
SKW1411	85	11/10/11	03/01/12	11/10/11	03/01/12	0									
<b>Construction of Grid G-N</b>															
SKW1311	36	14/02/11	21/03/11	14/02/11	21/03/11	0									
SKW1321	35	22/03/11	25/04/11	22/03/11	25/04/11	0									
SKW1331	35	26/04/11	30/05/11	26/04/11	30/05/11	0									
SKW1341	35	31/05/11	04/07/11	31/05/11	04/07/11	0									
SKW1351	18	05/07/11	22/07/11	05/07/11	22/07/11	0									
SKW1361	24	23/07/11	15/08/11	23/07/11	15/08/11	0									
<b>Construction of Grid N-T</b>															
SKW1371	80	28/07/11	15/10/11	28/07/11	15/10/11	0									
SKW1381	30	16/10/11	14/11/11	16/10/11	14/11/11	0									
SKW1391	30	15/11/11	14/12/11	15/11/11	14/12/11	0									
SKW1401	30	15/12/11	13/01/12	15/12/11	13/01/12	0									
SKW1421	30	14/01/12	12/02/12	14/01/12	12/02/12	0									
<b>SKW STP - E&amp;M Works</b>															
E&M3170	100	16/08/11	23/11/11	18/01/12	26/04/12	155d									
E&M3190	60	15/10/11	13/12/11	15/10/11	13/12/11	0									
E&M3210	60	16/08/11	14/10/11	16/08/11	14/10/11	0									
E&M3220	75	16/08/11	29/10/11	16/08/11	29/10/11	0									
E&M3230	45	30/10/11	13/12/11	30/10/11	13/12/11	0									
E&M3240	74	13/02/12	26/04/12	13/02/12	26/04/12	0									
E&M3250	75	14/12/11	26/02/12	14/12/11	26/02/12	0									
E&M3260	135	14/12/11	26/04/12	14/12/11	26/04/12	0									
E&M3261	174	05/11/11	26/04/12	05/11/11	26/04/12	0									
E&M3270	60	27/02/12	26/04/12	27/02/12	26/04/12	0									
E&M3291	180	29/12/11	25/06/12	07/01/12	04/07/12	9d									
E&M3300	161	29/12/11	06/06/12	26/01/12	04/07/12	28d									
E&M3310	90	27/02/12	26/05/12	11/05/12	08/08/12	74d									
E&M3311	47	27/04/12	12/06/12	27/04/12	12/06/12	0									
E&M3320	47	27/04/12	12/06/12	27/04/12	12/06/12	0									
E&M3321	21	13/06/12	03/07/12	13/06/12	03/07/12	0									
E&M3331	1	04/07/12	04/07/12	04/07/12	04/07/12	0									
E&M3359	35	05/07/12	08/08/12	05/07/12	08/08/12	0									
E&M3360	505	09/08/12	26/12/13	09/08/12	26/12/13	0									
E&M3370	50	27/12/13	14/02/14	27/12/13	14/02/14	0									
<b>Rising Main</b>															
SKW1481	120	17/05/10	13/09/10	17/05/10	13/09/10	0									
SKW1501	300	14/09/10	10/07/11	14/09/10	10/07/11	0									
SKW1521	230	11/07/11	25/02/12	11/07/11	25/02/12	0									
SKW1541	180	26/02/12	23/08/12	26/02/12	23/08/12	0									
SKW1551	180	24/08/12	19/02/13	24/08/12	19/02/13	0									
SKW1561	180	20/02/13	18/08/13	20/02/13	18/08/13	0									
SKW1571	180	19/08/13	14/02/14	19/08/13	14/02/14	0									
<b>Section W8 - Landscape Softworks in All Portions</b>															
SKW1591	21	17/05/10	06/06/10	26/11/13	16/12/13	1289d									
SKW1611	822	17/05/10	15/08/12	17/05/10	15/08/12	0									
SKW1621	60	07/06/10	05/08/10	17/12/13	14/02/14	1289d									
<b>Section W9 - Establishment Works in All Portions</b>															
SKW1631	365	16/08/12	15/08/13	16/08/12	15/08/13	0									

Start date	05/05/10	Early bar
Finish date	14/02/14	Progress bar
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Page number	4A	Progress point
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ID	Task Name	Duration	Start	Finish	2011					
					Sep	Oct	Nov	Dec	Jan	Feb
1	Portion G - Proposed Retaining Wall	28 days	Fri 10/9/10	Wed 13/10/10						
2	Bay 1	7 days	Fri 10/9/10	Fri 17/9/10						
3	Drilling holes & install dowel bars	1 day	Fri 10/9/10	Fri 10/9/10						
4	Erect formwork & concreting	5 days	Mon 13/9/10	Fri 17/9/10						
5	Bay 3	11 days	Sat 11/9/10	Fri 24/9/10						
6	Drilling holes & install dowel bars	1 day	Sat 11/9/10	Sat 11/9/10						
7	Erect formwork & concreting	5 days	Sat 18/9/10	Fri 24/9/10						
8	Bay 5	15 days	Mon 13/9/10	Thu 30/9/10						
9	Drilling holes & install dowel bars	1 day	Mon 13/9/10	Mon 13/9/10						
10	Erect formwork & concreting	5 days	Sat 25/9/10	Thu 30/9/10						
11	Bay 0	13 days	Tue 14/9/10	Wed 29/9/10						
12	Drilling holes & install dowel bars	1 day	Tue 14/9/10	Tue 14/9/10						
13	Erect formwork & concreting	4 days	Sat 25/9/10	Wed 29/9/10						
14	Bay 2	16 days	Wed 15/9/10	Mon 4/10/10						
15	Drilling holes & install dowel bars	1 day	Wed 15/9/10	Wed 15/9/10						
16	Erect formwork & concreting	4 days	Thu 30/9/10	Mon 4/10/10						
17	Bay 4	19 days	Thu 16/9/10	Fri 8/10/10						
18	Drilling holes & install dowel bars	1 day	Thu 16/9/10	Thu 16/9/10						
19	Erect formwork & concreting	4 days	Tue 5/10/10	Fri 8/10/10						
20	Bay 6	22 days	Fri 17/9/10	Wed 13/10/10						
21	Drilling holes & install dowel bars	1 day	Fri 17/9/10	Fri 17/9/10						
22	Erect formwork & concreting	4 days	Sat 9/10/10	Wed 13/10/10						
23										
24	Portion I - Proposed Rock Cut Slope	169.78 days	Mon 13/9/10	Thu 7/4/11						
25	Erection of temp. rock fall Fence	7 days	Mon 13/9/10	Mon 20/9/10						
26	Forming the haul road & platform at +13.0mPD	5 days	Tue 21/9/10	Mon 27/9/10						
27	Forming the haul road & platform at +21.0mPD	5 days	Tue 28/9/10	Sat 2/10/10						
28	Forming the haul road & platform at +29.0mPD	5 days	Mon 4/10/10	Fri 8/10/10						
29	Forming the haul road & platform at +37.0mPD	5 days	Sat 9/10/10	Thu 14/10/10						
30	Rock cutting & excavate the slope profile btw +49mPD to +42.5mPD(berm 1)	30 days	Fri 15/10/10	Fri 19/11/10						
31	Construct the associated 225 & 600 U-channel at above berm	14 days	Fri 12/11/10	Mon 29/11/10						

Project: Rolling Programme for Mau V Date: Wed 22/9/10	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

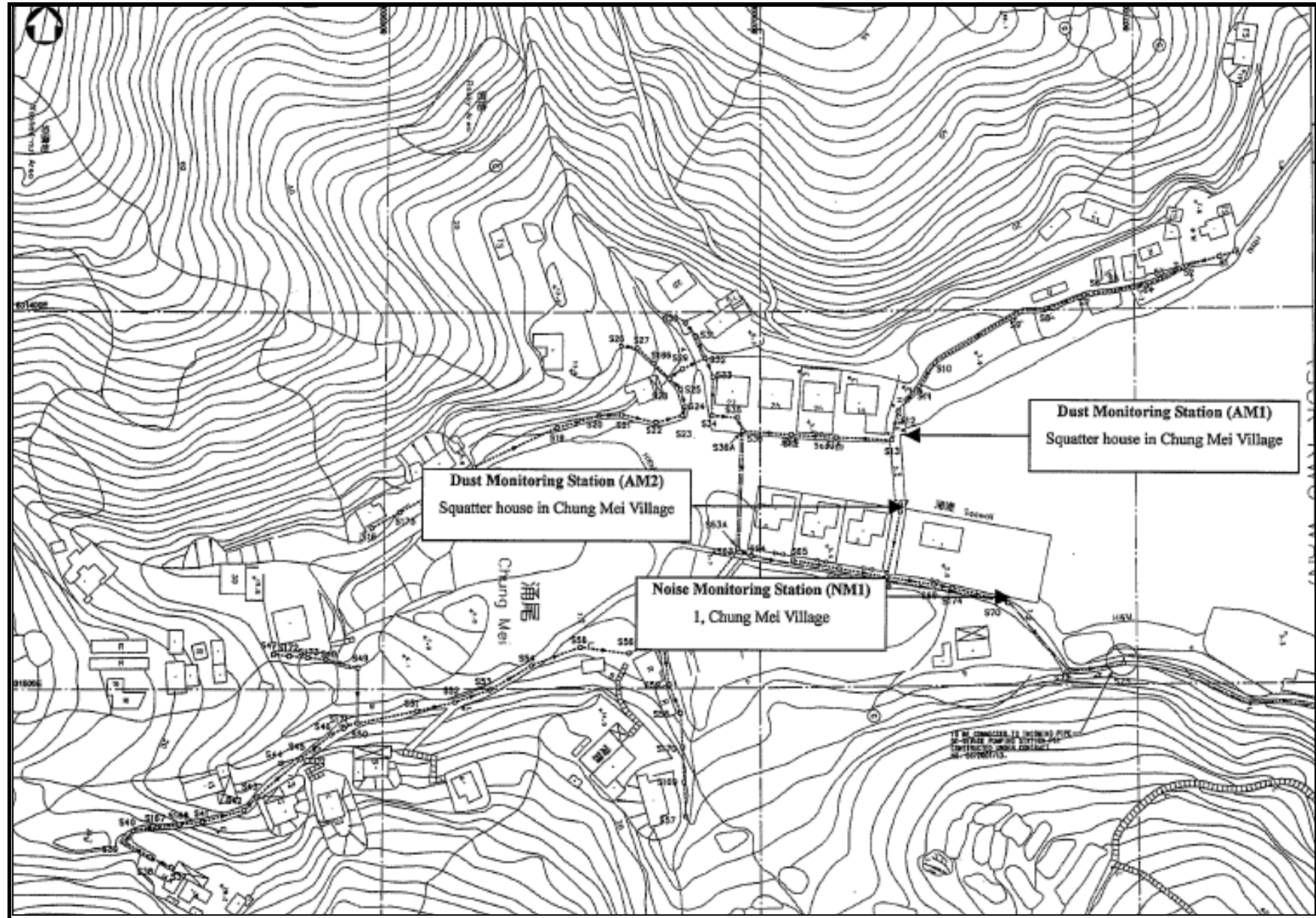
ID	Task Name	Duration	Start	Finish	2011					
					Sep	Oct	Nov	Dec	Jan	Feb
32	Rock cutting & excavate the slope profile btw +42.5mPD to +35.0mPD(berm 2)	21 days	Sat 20/11/10	Tue 14/12/10						
33	Construct the associated 225U-channel & 900 S-channel at above berm	14 days	Tue 7/12/10	Thu 23/12/10						
34	Rock cutting & excavate the slope profile btw +35.0mPD to +27.5mPD(berm 3)	21 days	Wed 15/12/10	Tue 11/1/11						
35	Construct the associated 225U-channel & 900 S-channel at above berm	14 days	Tue 4/1/11	Thu 20/1/11						
36	Rock cutting & excavate the slope profile btw+27.5mPD to +20.0mPD(berm 4)	21 days	Wed 12/1/11	Tue 8/2/11						
37	Construct the associated 225U-channel & 900 S-channel at above berm	14 days	Fri 28/1/11	Thu 17/2/11						
38	Rock cutting & excavate the slope profile btw +20.0mPD to +12.5mPD(berm 5)	21 days	Wed 9/2/11	Fri 4/3/11						
39	Construct the associated 225U-channel & 900 S-channel at above berm	14 days	Fri 25/2/11	Mon 14/3/11						
40	Rock cutting & excavate the slope profile btw +12.5mPD to +4.8mPD(ground)	21 days	Sat 5/3/11	Tue 29/3/11						
41	Construct the associated 225U-channel at above berm	14 days	Tue 22/3/11	Thu 7/4/11						
42										
43	<b>Portion E - Pumping Station 2</b>	<b>149 days</b>	<b>Mon 13/9/10</b>	<b>Mon 14/3/11</b>						
44	Breaking & removal of rock blouder	5 days	Mon 13/9/10	Fri 17/9/10						
45	Forming the formation level	10 days	Sat 18/9/10	Thu 30/9/10						
46	Trimming the proposed cut slope	7 days	Wed 22/9/10	Thu 30/9/10						
47	Mobilization of Plant for ELS Works	2 days	Fri 15/10/10	Mon 18/10/10						
48	Erection of ELS Works & Excavation to formation level	30 days	Tue 19/10/10	Mon 22/11/10						
49	Commence the structure works	90 days	Tue 23/11/10	Mon 14/3/11						
50										
51	<b>Portion D - Pumping Station 1</b>	<b>136 days</b>	<b>Mon 13/9/10</b>	<b>Sat 26/2/11</b>						
52	Trimming the formation at +2.5mPD	3 days	Mon 13/9/10	Wed 15/9/10						
53	Transport & delivery the ELS materials	2 days	Mon 13/9/10	Tue 14/9/10						
54	Erection of ELS works to +2.0mPD	14 days	Wed 15/9/10	Fri 1/10/10						
55	Erection of ELS Works & Excavation to formation level	30 days	Sat 2/10/10	Sat 6/11/10						
56	Commence the structure works	90 days	Mon 8/11/10	Sat 26/2/11						

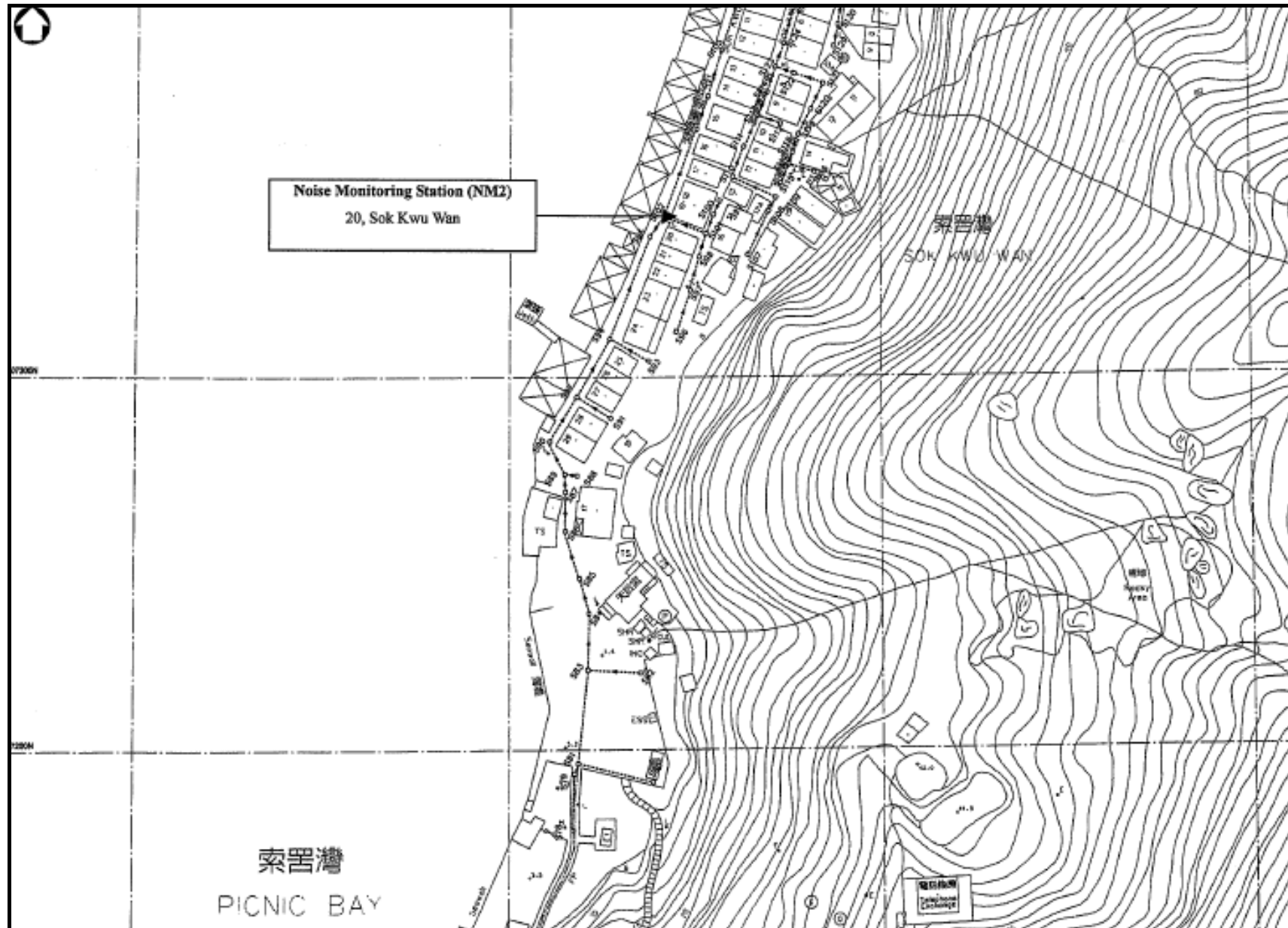
Project: Rolling Programme for Mau V Date: Wed 22/9/10	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

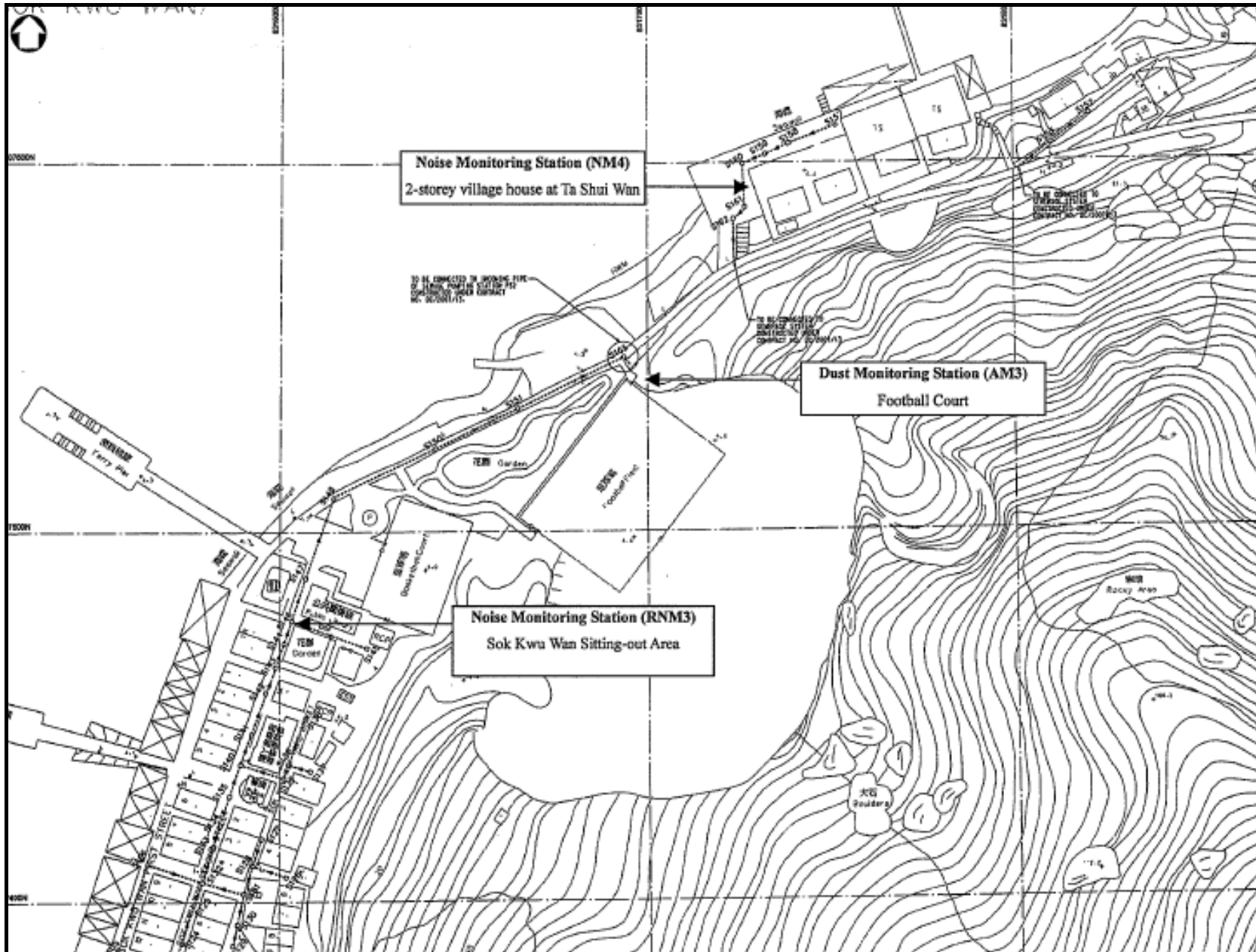
**Appendix D**

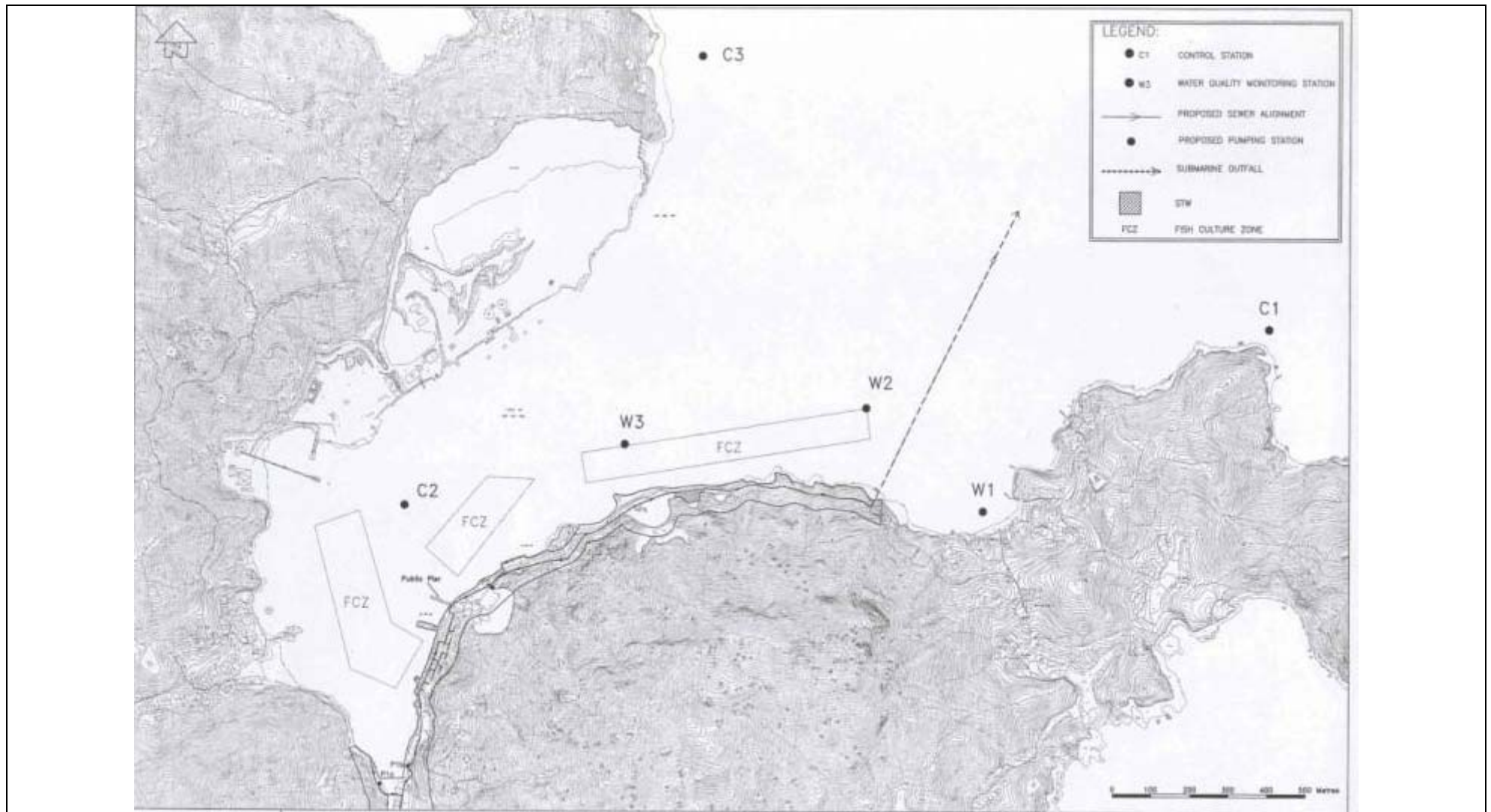
**Location of Monitoring Stations**  
**(Air Quality / Construction Noise / Water Quality)**











## **Appendix E**

### **Monitoring Equipments Calibration Certificate**

**Refer to DC/2007/18 EM&A Monthly Report  
(December 2010)**

## **Appendix F**

### **Event/Action Plan**

## **Air Quality**



EVENT	ACTION	IC(E)	ER	CONTRACTOR
	ET			
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform IC(E) and ER;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IC(E) and ER;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IC(E) and Contractor on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with IC(E) and ER;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial to ER within 3 working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>
<b>LIMIT LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform ER, Contractor and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IC(E) within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Notify IC(E), ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IC(E), agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IC(E) within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

## **Construction Noise**

EVENT	ACTION			
	ET	IC(E)	ER	CONTRACTOR
Action Level	<ol style="list-style-type: none"> <li>1. Notify IC(E) and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IC(E), ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IC(E);</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IC(E), ER, EPD and Contractor;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IC(E), ER and EPD the causes and actions taken for the exceedances;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IC(E) within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

## **Appendix G**

### **Monitoring Data Sheet**


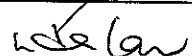
Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 1-hour TSP Monitoring – Data Record Sheet**

Date of Monitoring	1-12-10
--------------------	---------

Monitoring Location		AM1	AM2	AM3
Description		Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Portable Dust Monitor Ref No.		ET/EA/001 104	ET/EA/001 105	ET/EA/001 107
Details of Calibration of Dust Monitor with High Volume Sampler	Equation of Calibration	$y = 2600x - 56031$	$y = 0.5708x + 63403$	$y = 0.5708x + 63403$
	Calibration Due Date	12-8-11	7-3-11	7-3-11
Weather Condition		fine →	fine →	fine →
Time of Monitoring	Start	0925 1025 1125	0930 1030 1130	1400 1500 1600
	Finish	1025 1125 1225	1030 1130 1230	1500 1600 1700
Measured 1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) directly from the Dust Trap (y)		66 72 75	71 68 77	87 83 87
1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) with correlation (x)		118 128 134	113 108 127	191 152 109
Site Construction Activities		/	/	Excavation work
Remarks		The result was / was not exceeded the Action / Limit Level. (Action Level=343 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )	The result was / was not exceeded the Action / Limit Level. (Action Level=331 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )	The result was / was not exceeded the Action / Limit Level. (Action Level=353 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )

	Name	Signature	Date
Recorded by	Peter		1-12-10
Checked by	Linda Law		4/12/10



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 1-hour TSP Monitoring – Data Record Sheet**

Date of Monitoring	7-12-10
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Monitoring Location		AM1			AM2			AM3		
Description		Squatter house in Chung Mei Village			Squatter house in Chung Mei Village			Football court		
Portable Dust Monitor Ref No.		ET/EA/001 104			ET/EA/001 105			ET/EA/001 105		
Details of Calibration of Dust Monitor with High Volume Sampler	Equation of Calibration	$y = 2.6007x - 8.6031$			$y = 2.5708x + 6.3403$			$y = 2.5708x + 6.3403$		
	Calibration Due Date	12-2-11			7-3-11			7-3-11		
Weather Condition		fine →			fine →			fine →		
Time of Monitoring	Start	0930	1030	1130	0940	1040	1140	1400	1500	1600
	Finish	1030	1130 2	1230	1040	1140	1240	1500	1600	1700
Measured 1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) directly from the Dust Trap (y)		74	79	68	72	80	74	102	106	110
1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) with correlation (x)		133	141	123	115	129	119	168	175	182
Site Construction Activities		/			/			Excavation work		
Remarks		The result was / was not exceeded the Action / Limit Level. (Action Level=343 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )			The result was / was not exceeded the Action / Limit Level. (Action Level=331 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )			The result was / was not exceeded the Action / Limit Level. (Action Level=353 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )		

	Name	Signature	Date
Recorded by	Keter		7-12-10
Checked by	Lin Delow		7/12/10



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

**Impact 1-hour TSP Monitoring - Data Record Sheet**

Date of Monitoring		13.12.10								
Monitoring Location		AM1			AM2			AM3		
Description		Squatter house in Chung Mei Village			Squatter house in Chung Mei Village			Football court		
Portable Dust Monitor Ref No.		ET/EA/001 / 07			ET/EA/001 / 05			ET/EA/001 / 05		
Details of Calibration of Dust Monitor with High Volume Sampler	Equation of Calibration	$y = 26.007x - 6.6031$			$y = 20.5708x - 6.3403$			$y = 20.5708x + 6.3403$		
	Calibration Due Date	12-7-11			7-3-11			7-3-11		
Weather Condition		cloudy			cloudy			cloudy		
Time of Monitoring	Start	0925	1025	1125	0935	1035	1135	1400	1500	1600
	Finish	1025	1125	1225	1035	1135	1235	1700	1800	1900
Measured 1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) directly from the Dust Trap (y)		58	64	52	73	66	61	89	84	91
1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) with correlation (x)		106	116	92	117	108	96	108	126	148
Site Construction Activities		/			/			Excavation works		
Remarks		The result was / was not exceeded the Action / Limit Level. (Action Level=343 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )			The result was / was not exceeded the Action / Limit Level. (Action Level=331 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )			The result was / was not exceeded the Action / Limit Level. (Action Level=353 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )		

Recorded by	Name	Signature	Date
Checked by	Linda Law	Linda Law	13-12-10
			13/12/10



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 1-hour TSP Monitoring – Data Record Sheet**

Date of Monitoring	17-12-10
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Monitoring Location		AM1	AM2	AM3
Description		Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Portable Dust Monitor Ref No.		ET/EA/001 104	ET/EA/001 105	ET/EA/001 103
Details of Calibration of Dust Monitor with High Volume Sampler	Equation of Calibration	$y = 0.6007x - 5.6031$	$y = 0.5708x + 6.3403$	$y = 0.5708x + 6.3403$
	Calibration Due Date	12-7-11	7-3-11	7-3-11
Weather Condition		fine →	fine →	fine →
Time of Monitoring	Start	0925 1005 1125	0935 1035 1135	1400 1500 1600
	Finish	1025 1125 1225	1035 1135 1235	1500 1600 1700
Measured 1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) directly from the Dust Trap (y)		74 68 78	88 94 82	111 108 117
1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) with correlation (x)		137 123 139	143 154 133	183 178 184
Site Construction Activities		/	/	Excavation work.
Remarks		The result was / was not exceeded the Action / Limit Level. (Action Level=343 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )	The result was / was not exceeded the Action / Limit Level. (Action Level=331 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )	The result was / was not exceeded the Action / Limit Level. (Action Level=353 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )

	Name	Signature	Date
Recorded by	Roter		17/12-10
Checked by	Kinde Lam		17/12/10





Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 1-hour TSP Monitoring – Data Record Sheet**

Date of Monitoring	23-12-10
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Monitoring Location		AM1	AM2	AM3
Description		Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Portable Dust Monitor Ref No.		ET/EA/001 104	ET/EA/001 105	ET/EA/001 105
Details of Calibration of Dust Monitor with High Volume Sampler	Equation of Calibration	$y = 0.6007x - 6.6031$	$y = 0.5708x + 6.3403$	$y = 0.5708x - 6.3403$
	Calibration Due Date	12-4-11	7-3-11	7-3-11
Weather Condition		fine	fine	fine
Time of Monitoring	Start	0930 1030 1130	0940 1040 1140	1000 1100 1600
	Finish	1030 1130 1230	1040 1140 1240	1100 1600 1700
Measured 1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) directly from the Dust Trap (y)		67 62 18	76 83 72	99 92 103
1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) with correlation (x)		121 113 106	122 134 115	162 150 169
Site Construction Activities		/	/	Excavation work.
Remarks		The result was / was not exceeded the Action / Limit Level. (Action Level=343 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )	The result was / was not exceeded the Action / Limit Level. (Action Level=331 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )	The result was / was not exceeded the Action / Limit Level. (Action Level=353 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )

	Name	Signature	Date
Recorded by	Peter		23-12-10
Checked by	Linda Lam		23/12/10



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 1-hour TSP Monitoring – Data Record Sheet**

Date of Monitoring	29-12-2010
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Monitoring Location		AM1			AM2			AM3		
Description		Squatter house in Chung Mei Village			Squatter house in Chung Mei Village			Football court		
Portable Dust Monitor Ref No.		ET/EA/001/104			ET/EA/001/105			ET/EA/001/105		
Details of Calibration of Dust Monitor with High Volume Sampler	Equation of Calibration	$y = 0.6007x - 5.6031$			$y = 0.5708x + 6.3403$			$y = 0.5708x + 6.3403$		
	Calibration Due Date	12-4-2011			7-3-11			7-3-11		
Weather Condition		Fine	→	→	Fine	→	→	Fine	→	→
Time of Monitoring	Start	09:30	10:30	11:30	09:40	10:40	11:40	14:00	15:00	16:00
	Finish	10:30	11:30	12:30	09:40	10:40	11:40	15:00	16:00	17:00
Measured 1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) directly from the Dust Trap (y)		65	63	60	78	40	71	95	93	100
1-hr TSP ( $\mu\text{g}/\text{m}^3$ ) with correlation (x)		118	114	109	126	129	113	155	152	164
Site Construction Activities								Excavation work		
Remarks		The result <del>was</del> / was not exceeded the Action / Limit Level. (Action Level=343 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )			The result <del>was</del> / was not exceeded the Action / Limit Level. (Action Level=331 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )			The result <del>was</del> / was not exceeded the Action / Limit Level. (Action Level=353 $\mu\text{g}/\text{m}^3$ , Limit Level=500 $\mu\text{g}/\text{m}^3$ )		

	Name	Signature	Date
Recorded by	S.H. Lam	Lam	3-1-2010
Checked by	Jade Lam	Jade Lam	24/1/11



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 24-hr TSP Monitoring – Data Record Sheet**

Monitoring Period	From <u>7-12-10</u> To <u>2-12-10</u>
Weather Condition High Volume Sampler, Greasby GMW 2310	<u>(Fine)</u> / Sunny / Cloudy / Rainy ( <u>24</u> °C)

Monitoring Location	AM1	AM2	AM3
Description	Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Equipment (Type and Model)	Graseby GMW 2310	Graseby GMW 2310	Graseby GMW 2310
Equipment No.	ET/EA/003/17	ET/EA/003/14	ET/EA/003/15
Sampling Start Date and Time	<u>7/12</u> <u>13:00</u>	<u>7/12</u> <u>13:00</u>	<u>7/12</u> <u>13:00</u>
Sampling End Date and Time	<u>7/12</u> <u>13:00</u>	<u>7/12</u> <u>13:00</u>	<u>7/12</u> <u>13:00</u>
Initial Elapsed Time Reading	<u>16559.38</u>	<u>20595.37</u>	<u>4679.56</u>
Final Elapsed Time Reading	<u>16583.38</u>	<u>20619.37</u>	<u>4679.56</u>
Initial Flow Rate (m <sup>3</sup> /min)	<u>0.9236</u>	<u>1.0865</u>	<u>1.2163</u>
Final Flow Rate (m <sup>3</sup> /min)	<u>0.9236</u>	<u>1.0865</u>	<u>1.2163</u>
Average Flow Rate (m <sup>3</sup> /min)	<u>0.9236</u>	<u>1.0865</u>	<u>1.2163</u>
Total Volume (m <sup>3</sup> )	<u>1329.98</u>	<u>1564.56</u>	<u>1751.47</u>
Filter Identification no.	<u>536</u>	<u>537</u>	<u>538</u>
Initial Weight of Filter (g)	<u>2.7843</u>	<u>2.8024</u>	<u>2.8226</u>
Final Weight of Filter (g)	<u>2.9066</u>	<u>2.9637</u>	<u>3.0270</u>
Weight of Particulate (g)	<u>0.1223</u>	<u>0.1613</u>	<u>0.2044</u>
Particulate Concentration (µg/m <sup>3</sup> )	<u>93</u>	<u>103</u>	<u>117</u>
Site Construction Activities	<u>/</u>	<u>/</u>	<u>Excavation</u>
Remarks	The result was / was not exceeded the Action / Limit Level. (Action Level=173 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=175 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=191 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )

	Name	Signature	Date
Recorded by	<u>Peter</u>	<u>[Signature]</u>	<u>7-12-10</u>
Checked by	<u>Lade Law</u>	<u>[Signature]</u>	<u>7/12/10</u>



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 24-hr TSP Monitoring – Data Record Sheet**

Monitoring Period	From <u>7-12-10</u> To <u>8-12-10</u>
Weather Condition High Volume Sampler, Greasby GMW 2310	( <u>Fine</u> ) / Sunny / Cloudy / Rainy ( <u>19</u> °C)

Monitoring Location	AM1	AM2	AM3
Description	Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Equipment (Type and Model)	Graseby GMW 2310	Graseby GMW 2310	Graseby GMW 2310
Equipment No.	ET/EA/003/17	ET/EA/003/14	ET/EA/003/15
Sampling Start Date and Time	$\frac{7}{12}$ 13:00	$\frac{7}{12}$ 13:00	$\frac{7}{12}$ 13:00
Sampling End Date and Time	$\frac{8}{12}$ 13:00	$\frac{8}{12}$ 13:00	$\frac{8}{12}$ 13:00
Initial Elapsed Time Reading	16583.38	20619.37	4679.56
Final Elapsed Time Reading	16607.38	20643.37	4703.56
Initial Flow Rate (m <sup>3</sup> /min)	0.9497	1.1246	1.1785
Final Flow Rate (m <sup>3</sup> /min)	0.9497	1.1246	1.1785
Average Flow Rate (m <sup>3</sup> /min)	0.9497	1.1246	1.1785
Total Volume (m <sup>3</sup> )	1367.6	1619.4	1692.7
Filter Identification no.	539	540	541
Initial Weight of Filter (g)	2.8114	2.8255	2.8331
Final Weight of Filter (g)	2.9536	3.0083	3.0447
Weight of Particulate (g)	0.1422	0.1798	0.2116
Particulate Concentration (µg/m <sup>3</sup> )	104	111	125
Site Construction Activities	/	/	Excavation.
Remarks	The result was / was not exceeded the Action / Limit Level. (Action Level=173 µg/m <sup>3</sup> , Limit Level=260 µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=175 µg/m <sup>3</sup> , Limit Level=260 µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=191 µg/m <sup>3</sup> , Limit Level=260 µg/m <sup>3</sup> )

	Name	Signature	Date
Recorded by	Peter		18-12-10
Checked by	Linde Low		18/12/10



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 24-hr TSP Monitoring – Data Record Sheet**

Monitoring Period	From <u>13-12-10</u> To <u>14-12-10</u>
Weather Condition High Volume Sampler, Greasby GMW 2310	Fine / Sunny / <u>Cloudy</u> / Rainy ( <u>19</u> °C)

Monitoring Location	AM1	AM2	AM3
Description	Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Equipment (Type and Model)	Grasby GMW 2310	Grasby GMW 2310	Grasby GMW 2310
Equipment No.	ET/EA/003/17	ET/EA/003/14	ET/EA/003/15
Sampling Start Date and Time	<u>13/12</u> <u>13:00</u>	<u>13/12</u> <u>13:00</u>	<u>13/12</u> <u>13:00</u>
Sampling End Date and Time	<u>14/12</u> <u>13:00</u>	<u>14/12</u> <u>13:00</u>	<u>14/12</u> <u>13:00</u>
Initial Elapsed Time Reading	<u>16607.38</u>	<u>20643.37</u>	<u>4703.56</u>
Final Elapsed Time Reading	<u>16631.38</u>	<u>20667.37</u>	<u>4727.56</u>
Initial Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Final Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Average Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Total Volume (m <sup>3</sup> )	<u>1367.6</u>	<u>1619.4</u>	<u>1692.7</u>
Filter Identification no.	<u>542</u>	<u>543</u>	<u>544</u>
Initial Weight of Filter (g)	<u>2.8424</u>	<u>2.8217</u>	<u>2.7886</u>
Final Weight of Filter (g)	<u>2.9544</u>	<u>2.9674</u>	<u>2.9666</u>
Weight of Particulate (g)	<u>0.1121</u>	<u>0.1457</u>	<u>0.1710</u>
Particulate Concentration (µg/m <sup>3</sup> )	<u>82</u>	<u>90</u>	<u>101</u>
Site Construction Activities	/	/	<u>Excavation.</u>
Remarks	The result was / was not exceeded the Action / Limit Level. (Action Level=173 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=175 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=191 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )

	Name	Signature	Date
Recorded by	<u>Peter</u>	<u>[Signature]</u>	<u>18/12/10</u>
Checked by	<u>Lide Low</u>	<u>[Signature]</u>	<u>18/12/10</u>



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 24-hr TSP Monitoring – Data Record Sheet**

Monitoring Period	From <u>17-12-10</u> To <u>18-12-10</u>
Weather Condition High Volume Sampler, Greasby GMW 2310	<u>Fine</u> / Sunny / Cloudy / Rainy ( <u>10</u> °C)

Monitoring Location	AM1	AM2	AM3
Description	Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Equipment (Type and Model)	Graseby GMW 2310	Graseby GMW 2310	Graseby GMW 2310
Equipment No.	ET/EA/003/17	ET/EA/003/14	ET/EA/003/15
Sampling Start Date and Time	<u>17/12</u> <u>13:00</u>	<u>17/12</u> <u>13:00</u>	<u>17/12</u> <u>13:00</u>
Sampling End Date and Time	<u>18/12</u> <u>13:00</u>	<u>18/12</u> <u>13:00</u>	<u>18/12</u> <u>13:00</u>
Initial Elapsed Time Reading	<u>16631.38</u>	<u>20667.37</u>	<u>4727.56</u>
Final Elapsed Time Reading	<u>16655.38</u>	<u>20691.37</u>	<u>4751.56</u>
Initial Flow Rate (m <sup>3</sup> /min)	<u>0.8487</u>	<u>1.1246</u>	<u>1.1755</u>
Final Flow Rate (m <sup>3</sup> /min)	<u>0.8487</u>	<u>1.1246</u>	<u>1.1755</u>
Average Flow Rate (m <sup>3</sup> /min)	<u>0.8487</u>	<u>1.1246</u>	<u>1.1755</u>
Total Volume (m <sup>3</sup> )	<u>1367.6</u>	<u>1618.4</u>	<u>1692.7</u>
Filter Identification no.	<u>545</u>	<u>846</u>	<u>547</u>
Initial Weight of Filter (g)	<u>2.8114</u>	<u>2.8056</u>	<u>2.8233</u>
Final Weight of Filter (g)	<u>2.9168</u>	<u>2.9422</u>	<u>2.9844</u>
Weight of Particulate (g)	<u>0.1054</u>	<u>0.1366</u>	<u>0.1611</u>
Particulate Concentration (µg/m <sup>3</sup> )	<u>77</u>	<u>84</u>	<u>95</u>
Site Construction Activities	<u>/</u>	<u>/</u>	<u>Excavation</u>
Remarks	The result was / was not exceeded the Action / Limit Level. (Action Level=173 µg/m <sup>3</sup> , Limit Level=260 µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=175 µg/m <sup>3</sup> , Limit Level=260 µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=191 µg/m <sup>3</sup> , Limit Level=260 µg/m <sup>3</sup> )

	Name	Signature	Date
Recorded by	<u>pefer</u>	<u>[Signature]</u>	<u>17.12.10</u>
Checked by	<u>Kinde Lam</u>	<u>[Signature]</u>	<u>24/12/10</u>



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

Impact 24-hr TSP Monitoring – Data Record Sheet

Monitoring Period	From <u>23-12-2010</u> To <u>24-12-2010</u>
Weather Condition High Volume Sampler, Greasby GMW 2310	<u>Fine</u> / Sunny / Cloudy / Rainy ( <u>19</u> °C)

Monitoring Location	AM1	AM2	AM3
Description	Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Equipment (Type and Model)	Graseby GMW 2310	Graseby GMW 2310	Graseby GMW 2310
Equipment No.	ET/EA/003/17	ET/EA/003/14	ET/EA/003/15
Sampling Start Date and Time	<u>23/12 13:00</u>	<u>23/12 13:00</u>	<u>23/12 13:00</u>
Sampling End Date and Time	<u>24/12 13:00</u>	<u>24/12 13:00</u>	<u>24/12 13:00</u>
Initial Elapsed Time Reading	<u>16655.38</u>	<u>20691.37</u>	<u>4751.56</u>
Final Elapsed Time Reading	<u>16679.38</u>	<u>20715.37</u>	<u>4775.56</u>
Initial Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Final Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Average Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Total Volume (m <sup>3</sup> )	<u>1367.6</u>	<u>1619.4</u>	<u>1692.7</u>
Filter Identification no.	<u>548</u>	<u>549</u>	<u>550</u>
Initial Weight of Filter (g)	<u>2.8239</u>	<u>2.8142</u>	<u>2.8266</u>
Final Weight of Filter (g)	<u>2.9276</u>	<u>2.9408</u>	<u>2.9864</u>
Weight of Particulate (g)	<u>0.1037</u>	<u>0.1266</u>	<u>0.1598</u>
Particulate Concentration (µg/m <sup>3</sup> )	<u>76</u>	<u>78</u>	<u>94</u>
Site Construction Activities	/	/	Excavation
Remarks	The result was / was not exceeded the Action / Limit Level. (Action Level=173 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=175 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=191 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )

	Name	Signature	Date
Recorded by	<u>S. H. Lam</u>	<u>Lam</u>	<u>31-12-2010</u>
Checked by	<u>Kinde Lam</u>	<u>Kinde Lam</u>	<u>31/12/10</u>



Contract No.: DC/2007/18

Yung Shue Wan and Sok Kwu Wan Village Sewerage, Stage 1 Works

**Impact 24-hr TSP Monitoring – Data Record Sheet**

Monitoring Period	From <u>29-12-2010</u> To <u>30-12-2010</u>
Weather Condition High Volume Sampler, Greasby GMW 2310	<u>Fine</u> / Sunny / Cloudy / Rainy ( <u>14</u> °C)

Monitoring Location	AM1	AM2	AM3
Description	Squatter house in Chung Mei Village	Squatter house in Chung Mei Village	Football court
Equipment (Type and Model)	Graseby GMW 2310	Graseby GMW 2310	Graseby GMW 2310
Equipment No.	ET/EA/003/17	ET/EA/003/14	ET/EA/003/15
Sampling Start Date and Time	<u>29/12 13:00</u>	<u>29/12 13:00</u>	<u>29/12 13:00</u>
Sampling End Date and Time	<u>30/12 13:00</u>	<u>30/12 13:00</u>	<u>30/12 13:00</u>
Initial Elapsed Time Reading	<u>16679.38</u>	<u>20715.37</u>	<u>4775.56</u>
Final Elapsed Time Reading	<u>16703.38</u>	<u>20739.37</u>	<u>4799.56</u>
Initial Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Final Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Average Flow Rate (m <sup>3</sup> /min)	<u>0.9497</u>	<u>1.1246</u>	<u>1.1755</u>
Total Volume (m <sup>3</sup> )	<u>1367.6</u>	<u>1619.4</u>	<u>1692.7</u>
Filter Identification no.	<u>551</u>	<u>552</u>	<u>553</u>
Initial Weight of Filter (g)	<u>2.8329</u>	<u>2.8206</u>	<u>2.8321</u>
Final Weight of Filter (g)	<u>2.9377</u>	<u>2.9507</u>	<u>2.9808</u>
Weight of Particulate (g)	<u>0.1048</u>	<u>0.1301</u>	<u>0.1487</u>
Particulate Concentration (µg/m <sup>3</sup> )	<u>77</u>	<u>80</u>	<u>88</u>
Site Construction Activities	/	/	Excavation Excavation
Remarks	The result was / was not exceeded the Action / Limit Level. (Action Level=173 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=175 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )	The result was / was not exceeded the Action / Limit Level. (Action Level=191 µg/m <sup>3</sup> , Limit Level=260µg/m <sup>3</sup> )

	Name	Signature	Date
Recorded by	<u>S.H. Lam</u>	<u>Lam</u>	<u>31-12-2010</u>
Checked by	<u>Linde Lam</u>	<u>Linde Lam</u>	<u>31/12/10</u>





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

### Impact Noise Monitoring – Data Record Sheet

Date of Monitoring	1-12-10
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Equipment Used	Equipment No.			
Monitoring Location	NM1	NM2	RNM3	NM4
Sound Level Meter (Model and Serial No.)	Rison NL-31 (0011 0228)			
Sound Pressure Calibrator (Model and Serial No.)	Castle GA 607 (038641)			

Monitoring Location	NM1	NM2	RNM3	NM4
Description of Location	1, Chung Mei Village	20, Sok Kwu Wan	Sok Kwu Wan Sitting-out Area	2-storey village house at Ta Shui Wan
Measurement Time	From 0840 To 1010	From 1045 To 1115	From 1425 To 1455	From 1520 To 1550
Weather Condition	fine	fine	fine	fine
Temperature (°C)	23	23	23	23
Wind Strength (m/s)	0.5	0.5	0.6	0.7
Calibration before Measurement	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)
Type of Measurement	Free Field / Façade	Free Field / Façade	Free Field / Façade	Free Field / Façade
Measurement Period (min)	15/30	15/30	15/30	15/30
L <sub>eq</sub>	60.3	61.8	57.1	60.6
L <sub>10</sub>	62.8	64.2	59.4	63.2
L <sub>90</sub>	58.1	58.3	54.2	58.4
Major Construction Noise Source(s) During Measurement	General Earth Work	—	—	Piling works
Other Noise Source(s) During Measurement	vehicles passing by	vehicles passing by	—	—
Remarks	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.

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

	Name	Signature	Date
Recorded by	Dater		1-12-10
Checked by	Linda Lam		4/12/10



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

### Impact Noise Monitoring – Data Record Sheet

Date of Monitoring	7-12-10			
Equipment Used	Equipment No.			
Monitoring Location	NM1	NM2	RNM3	NM4
Sound Level Meter (Model and Serial No.)	Rion NR31 (0011024)	_____		
Sound Pressure Calibrator (Model and Serial No.)	Castle GA607 (038641)			

Monitoring Location	NM1	NM2	RNM3	NM4
Description of Location	1, Chung Mei Village	20, Sok Kwu Wan	Sok Kwu Wan Sitting-out Area	2-storey village house at Ta Shui Wan
Measurement Time	From 0830 To 1020	From 1055 To 1125	From 1425 To 1455	From 1120 To 1150
Weather Condition	fine	fine	fine	fine
Temperature (°C)	19	19	19	19
Wind Strength (m/s)	0.7	0.9	0.8	1.1
Calibration before Measurement	Before: 99.0 dB(A) After: 99.0 dB(A)	Before: 99.0 dB(A) After: 99.0 dB(A)	Before: 99.0 dB(A) After: 99.0 dB(A)	Before: 99.0 dB(A) After: 99.0 dB(A)
Type of Measurement	Free Field / Façade	Free Field / Façade	Free Field / Façade	Free Field / Façade
Measurement Period (min)	15/30	15/30	15/30	15/30
L <sub>eq</sub>	61.0	63.8	58.4	60.3
L <sub>10</sub>	63.7	66.1	61.2	62.6
L <sub>90</sub>	58.4	59.2	56.1	57.5
Major Construction Noise Source(s) During Measurement	General Earth Work	/	/	peeling works
Other Noise Source(s) During Measurement	vehicles passing by	vehicles passing by	/	/
Remarks	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.

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

	Name	Signature	Date
Recorded by	Peter		7-12-10
Checked by	Lade Lan		7/12/10



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

### Impact Noise Monitoring – Data Record Sheet

Date of Monitoring	13-12-10			
Equipment Used	Equipment No.			
Monitoring Location	NM1	NM2	RNM3	NM4
Sound Level Meter (Model and Serial No.)	Reco ML31 (00110528)			
Sound Pressure Calibrator (Model and Serial No.)	Castle	GA607	(038641)	

Monitoring Location	NM1		NM2		RNM3		NM4	
Description of Location	1, Chung Mei Village		20, Sok Kwu Wan		Sok Kwu Wan Sitting-out Area		2-storey village house at Ta Shui Wan	
Measurement Time	From 0945 To 1015	From 1050 To 1120	From 1410 To 1440	From 1510 To 1540				
Weather Condition	cloudy		cloudy		cloudy		cloudy	
Temperature (°C)	19		19		19		19	
Wind Strength (m/s)	1.0		0.7		0.8		1.3	
Calibration before Measurement	Before: 92.0 dB(A) After: 92.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)
Type of Measurement	Free Field / Façade		Free Field / Façade		Free Field / Façade		Free Field / Façade	
Measurement Period (min)	15/30		15/30		15/30		15/30	
L <sub>eq</sub>	61.8		64.9		59.2		60.6	
L <sub>10</sub>	64.2		67.5		62.3		62.9	
L <sub>90</sub>	58.8		59.4		56.7		57.8	
Major Construction Noise Source(s) During Measurement	General Bath Works		-		-		Paving works	
Other Noise Source(s) During Measurement	vehicles passing by		vehicles passing by		-		-	
Remarks	The result was / was not exceeded the Limit Level.		The result was / was not exceeded the Limit Level.		The result was / was not exceeded the Limit Level.		The result was / was not exceeded the Limit Level.	

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

	Name	Signature	Date
Recorded by	Dexter		13-12-10
Checked by	Kide Lam	Kide Lam	13/12/10



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

### Impact Noise Monitoring – Data Record Sheet

Date of Monitoring	23-12-10			
Equipment Used	Equipment No.			
Monitoring Location	NM1	NM2	RNM3	NM4
Sound Level Meter (Model and Serial No.)	Prox NL-31 (00110524)			
Sound Pressure Calibrator (Model and Serial No.)	Cesla GA607		(038641)	

Monitoring Location	NM1	NM2	RNM3	NM4
Description of Location	1, Chung Mei Village	20, Sok Kwu Wan	Sok Kwu Wan Sitting-out Area	2-storey village house at Ta Shui Wan
Measurement Time	From 1050 To 1120	From 1410 To 1440	From 1700 To 1500	From 1610 To 1640
Weather Condition	fine	fine	fine	fine
Temperature (°C)	23	23	23	23
Wind Strength (m/s)	0.3	0.4	0.5	0.8
Calibration before Measurement	Before: 84.0 dB(A) After: 92.0 dB(A)	Before: 92.0 dB(A) After: 92.0 dB(A)	Before: 92.0 dB(A) After: 92.0 dB(A)	Before: 95.0 dB(A) After: 95.0 dB(A)
Type of Measurement	Free Field / Façade	Free Field / Façade	Free Field / Façade	Free Field / Façade
Measurement Period (min)	15/30	15/30	15/30	15/30
L <sub>eq</sub>	62.3	61.5	58.8	60.3
L <sub>10</sub>	64.8	62.2	61.9	63.1
L <sub>90</sub>	58.9	60.1	56.5	58.2
Major Construction Noise Source(s) During Measurement	General earth work	/	/	poling work
Other Noise Source(s) During Measurement	vehicles passing by	vehicles passing by	/	/
Remarks	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.

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

	Name	Signature	Date
Recorded by	Pat		27-12-10
Checked by	Linda Lam		23/12/10



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

### Impact Noise Monitoring – Data Record Sheet

Date of Monitoring	29-12-2010
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Equipment Used	Equipment No.			
Monitoring Location	NM1	NM2	RNM3	NM4
Sound Level Meter (Model and Serial No.)	Rion NL-31 (00110024) →			
Sound Pressure Calibrator (Model and Serial No.)	Castle GA 607 (038647)			

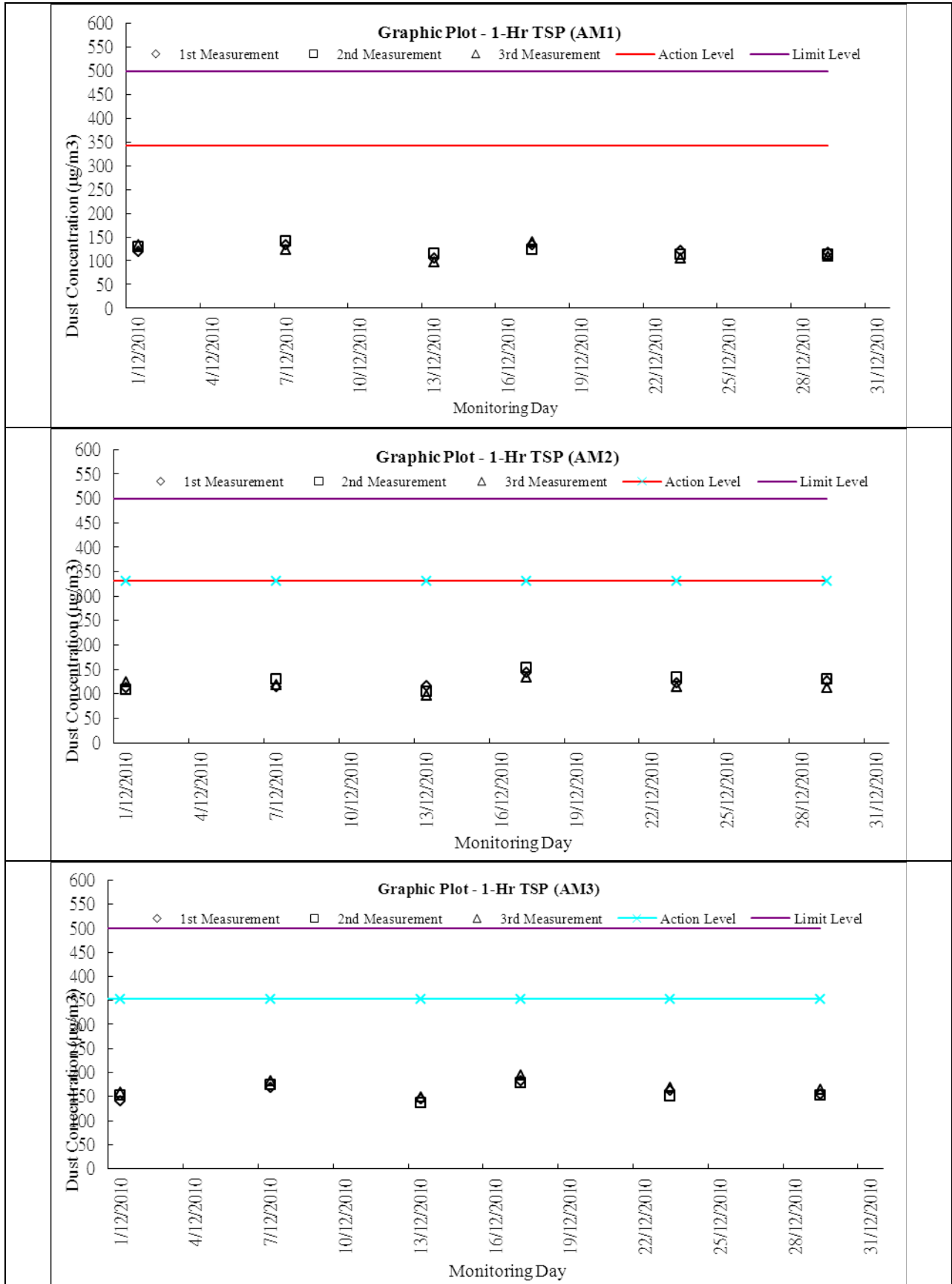
Monitoring Location	NM1	NM2	RNM3	NM4
Description of Location	1, Chung Mei Village	20, Sok Kwu Wan	Sok Kwu Wan Sitting-out Area	2-storey village house at Ta Shui Wan
Measurement Time	From 10:15 To 10:45	From 13:00 To 13:30	From 15:05 To 15:35	From 16:10 To 16:40
Weather Condition	Fine	Fine	Fine	Fine
Temperature (°C)	19	19	19	19
Wind Strength (m/s)	0.6	0.4	0.7	0.8
Calibration before Measurement	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)	Before: 94.0 dB(A) After: 94.0 dB(A)
Type of Measurement	Free Field / Façade	Free Field / Façade	Free Field / Façade	Free Field / Façade
Measurement Period (min)	15/30	15/30	15/30	15/30
L <sub>eq</sub>	63.3	65.8	59.3	61.6
L <sub>10</sub>	65.8	69.3	63.4	64.4
L <sub>90</sub>	59.2	61.4	57.6	59.1
Major Construction Noise Source(s) During Measurement	General earth work	/	/	/
Other Noise Source(s) During Measurement	Vehicles passing by	Vehicles passing by	/	/
Remarks	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.	The result was / was not exceeded the Limit Level.

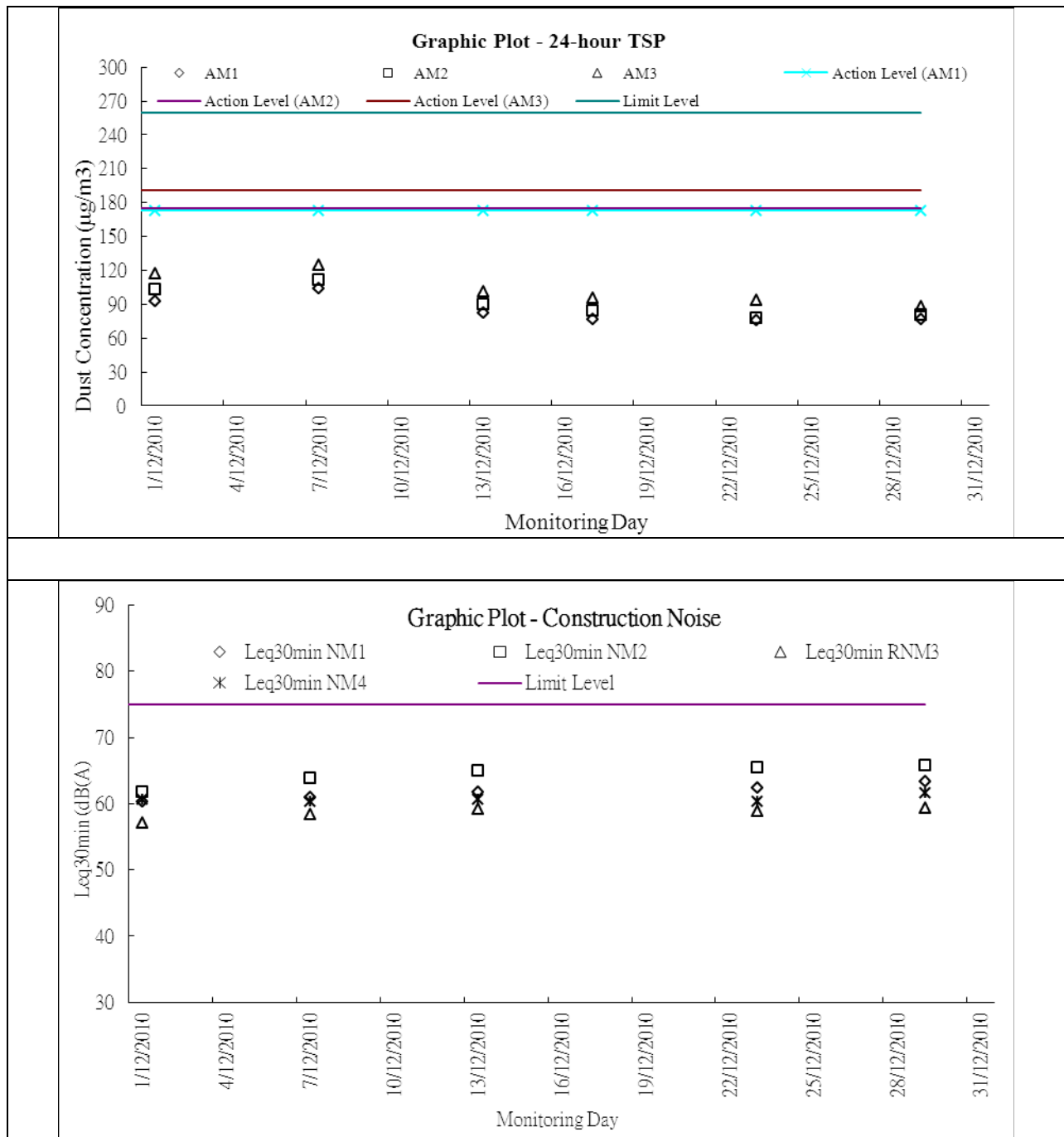
Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)

	Name	Signature	Date
Recorded by	S. H. Lam	Lam	29-12-2010
Checked by	Lide Lam	Lide Lam	29/12/10

## **Appendix H**

### **Graphical Plots of Monitoring Results**







# **Appendix I**

## **Meteorological Information**

**Meteorological Data Extracted from HKO during the Reporting Period**

Date		Weather
1-Dec-10	Wed	Light to moderate northeasterly winds.
2-Dec-10	Thu	Mainly fine apart from some haze.
3-Dec-10	Fri	Fine and dry apart from some haze.
4-Dec-10	Sat	Light winds
5-Dec-10	Sun	Hazy with sunny periods.
6-Dec-10	Mon	Fresh northerly winds
7-Dec-10	Tue	Fine and very dry.
8-Dec-10	Wed	Moderate to fresh northerly winds
9-Dec-10	Thu	Mainly cloudy with mist.
10-Dec-10	Fri	Moderate northeasterly winds
11-Dec-10	Sat	There will be coastal fog.
12-Dec-10	Sun	Light to moderate northeasterly winds
13-Dec-10	Mon	Fresh easterly winds, strong over offshore waters.
14-Dec-10	Tue	Cloudy with a few rain patches later.
15-Dec-10	Wed	Cloudy with occasional rain.
16-Dec-10	Thu	Moderate to fresh northerly winds.
17-Dec-10	Fri	Fine and <b>very dry</b> .
18-Dec-10	Sat	Light winds
19-Dec-10	Sun	Fine and dry apart from some haze.
20-Dec-10	Mon	Fine and dry but hazy.
21-Dec-10	Tue	Fine but hazy. Light winds.
22-Dec-10	Wed	Fine and dry.
23-Dec-10	Thu	Mainly fine and dry apart from some haze.
24-Dec-10	Fri	Mainly fine and dry.
25-Dec-10	Sat	Holiday
26-Dec-10	Sun	Holiday
27-Dec-10	Mon	Holiday
28-Dec-10	Tue	Light to <b>moderate</b> northeasterly winds.
29-Dec-10	Wed	Fine and very dry.
30-Dec-10	Thu	Moderate to fresh northerly winds
31-Dec-10	Fri	Fine and very dry.

## **Appendix J**

### **Monthly Summary Waste Flow Table**

## Monthly Summary Waste Flow Table for December 2010

Month	Actual Quantities of Inert C&D Materials Generated Monthly												Actual Quantities of C&D Wastes Generated Monthly									
	Total Quantity Generated (a) = (c)+(d)+(e)		Hard Rock and Large Broken Concrete (b)		Reused in the Contract (c)		Reused in other Projects (d)		Disposed as Public Fill (e)		Imported Fill (f)		Metals		Paper/ cardboard packaging		Plastics		Chemical Waste		Others, e.g. rubbish	
	(in '000m <sup>3</sup> )		(in '000m <sup>3</sup> )		(in '000m <sup>3</sup> )		(in '000m <sup>3</sup> )		(in '000m <sup>3</sup> )		(in '000m <sup>3</sup> )		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in tonne)	
	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW	YSW	SKW
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.600
<b>Sub-total</b>	0.0539	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0539	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	3.60
Jul	0.139	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.139	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.320
Aug	0.345	0.000	0.044	0.000	0.000	0.000	0.000	0.000	0.345	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.930
Sep	1.917	0.029	0.000	0.002	0.000	0.000	0.000	0.000	1.917	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.580
Oct	0.829	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.829	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.457	0.001	0.003	0.083	0.362	0.000	0.000	0.000	0.095	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.640
Dec	0.780	0.000	0.001	0.019	0.126	0.000	0.000	0.000	0.654	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.390
<b>Total</b>	4.5216	0.0303	0.0677	0.1043	0.488	0.000	0.000	0.000	4.0332	0.0303	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.46
	4.552		0.172		0.488		0.000		4.063		0.000		0.000		0.000		0.000		0.000		18.46	

Remark: Assume 1.0 m<sup>3</sup> village vehicle dump load = 1.6 tonnes C&D materials

Import fill materials, Assume type A & B, 1m<sup>3</sup> = 1.45 tonne. Stockpile at YSW = 1440.2ton, SKW = 410.2ton. Delivery on Jul. & Dec. 08 and May 09

Excavated material from trench temporary stock at temporary platform at Chung Mei = approx. 59m<sup>3</sup>

YSW: Yung Shue Wan

SKW: Sok Kwu Wan

## **Appendix K**

### **Weekly Site Inspection Checklist**

Project: TCS/00512/09  
**Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inspected by \_\_\_\_\_  
 ETL/ ET's Representative: Ray Cheung  
 RE's Representative: Joseph Ng  
 Contractor's Representative: Edwin Leung  
 IEC's Representative: \_\_\_\_\_  
 Date: 7 December 2010 Time: 14:00

**PART A:**

**GENERAL INFORMATION**

Environmental Permit No.

Weather:  Sunny  Fine  Cloudy  Rainy  
 Temperature: 21.9 °C  
 Humidity:  High  Moderate  Low  
 Wind:  Strong  Breeze  Light  Calm

EP- 281/2007A

**Area Inspected**

1 Sok Kwn Wan

**PART B:**

**SITE AUDIT**

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 1: Water Quality</b>							
1.01	Is an effluent discharge license obtained for the Project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Remark 1
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m <sup>3</sup> capacities for sedimentation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.28	License collector should be employed for handling the sewage of mobile toilet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.29	Is ponding /stand water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.30	Is open stockpiles well covered by impermeable sheet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/ Remarks
<b>Section 5: Landscape &amp; Visual</b>						
5.01 Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.02 Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.03 Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.04 Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.05 Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Section 7: Others</b>						
7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Remarks:**

**Findings of Site Inspection (Sok Kwn Wan):**  
**(7 December 2010)**



1. The capacity of sedimentation tank was full. The contractor should clear the sediment inside to restore the desilting facility functioning.

**Follow up:**

**Rectified on 13 December 2010**



1. The tank was cleared.

*IEC's representative*

*RE's representative*

*ET's representative*

*EO's representative*

*Contractor's representative*

*Ray*

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( Ray Cheung )

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Project: TCS/00512/09  
**Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inspected by \_\_\_\_\_  
 ETL/ ET's Representative: Ray Cheung  
 RE's Representative: Joseph Ng  
 Contractor's Representative: Edwin Leung  
 IEC's Representative: KK Kwok  
 Date: 14 December 2010 Time: 09:30

Environmental Permit No. \_\_\_\_\_

**PART A:**

**GENERAL INFORMATION**

Weather:  Sunny  Fine  Cloudy  Rainy  
 Temperature: 24.7 °C  
 Humidity:  High  Moderate  Low  
 Wind:  Strong  Breeze  Light  Calm

EP- 281/2007A

**Area Inspected**

1 Sok Kwn Wan

**PART B:**

**SITE AUDIT**

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 1: Water Quality</b>							
1.01	Is an effluent discharge license obtained for the Project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Remark 4
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m <sup>3</sup> capacities for sedimentation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.28	License collector should be employed for handling the sewage of mobile toilet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.29	Is ponding /stand water avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Remark 1
1.30	Is open stockpiles well covered by impermeable sheet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Remark 2
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Remark 3
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Remarks:**

**Findings of Site Inspection (Sok Kwn Wan):  
(14 December 2010)**



1. The stagnant water accumulated should be drained away or applied larvidical oil to prevent mosquitoes breeding. (PS2)

**Follow up:**

**Rectified on 21 December 2010**



1. The water was kept pumping to avoid stagnant water



2. The stockpile should be fully covered and provided with sand bags to prevent surface runoff. (PS1)



2. The stockpile was covered fully.



3. The house-keeping should be improved. (portion G)



3. The house-keeping was improved



4. The un-used sedimentation tank should be covered with tarpaulin sheet or pumped the water away. (portion G)



4. The tank was covered to prevent mosquito breeding.

IEC's representative

RE's representative

ET's representative

EO's representative

Contractor's representative

*Ray*

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( Ray Cheung )

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Project: TCS/00512/09  
**Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inspected by \_\_\_\_\_  
 ETL/ ET's Representative: Ray Cheung  
 RE's Representative: Joseph Ng  
 Contractor's Representative: Edwin Leung  
 IEC's Representative: \_\_\_\_\_  
 Date: 21 December 2010 Time: 14:00

Environmental Permit No. \_\_\_\_\_

**PART A:**

**GENERAL INFORMATION**

Weather:  Sunny  Fine  Cloudy  Rainy  
 Temperature: 23.6 °C  
 Humidity:  High  Moderate  Low  
 Wind:  Strong  Breeze  Light  Calm

EP- 281/2007A

**Area Inspected**

1 Sok Kwn Wan

**PART B:**

**SITE AUDIT**

<b>Note:</b>	<b>Not Obs.:</b> Not Observed; <b>Yes:</b> Compliance; <b>No:</b> Non-Compliance;	<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
	<b>Follow Up:</b> Observations requiring follow-Up actions <b>N/A:</b> Not Applicable						

**Section 1: Water Quality**

		<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
1.01	Is an effluent discharge license obtained for the Project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



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1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m <sup>3</sup> capacities for sedimentation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.28	License collector should be employed for handling the sewage of mobile toilet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.29	Is ponding /stand water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.30	Is open stockpiles well covered by impermeable sheet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Remarks:**

**Findings of Site Inspection (Sok Kwn Wan):  
(21 December 2010)**

**Follow up:  
Rectified on**

No environmental issue was observed during the site inspection.

IEC's representative

RE's representative

ET's representative

EO's representative

Contractor's representative



( )

( )

( Ray Cheung )

( )

( )

Project: TCS/00512/09  
**Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inspected by \_\_\_\_\_  
 ETL/ ET's Representative: Nicola Hon  
 RE's Representative: Joseph Ng  
 Contractor's Representative: Edwin Leung  
 IEC's Representative: \_\_\_\_\_  
 Date: 28 December 2010 Time: 14:00

**PART A:**

**GENERAL INFORMATION**

Environmental Permit No.

Weather:  Sunny  Fine  Cloudy  Rainy  
 Temperature: 15.4 °C  
 Humidity:  High  Moderate  Low  
 Wind:  Strong  Breeze  Light  Calm

EP- 281/2007A

**Area Inspected**

1 Sok Kwn Wan

**PART B:**

**SITE AUDIT**

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 1: Water Quality</b>							
1.01	Is an effluent discharge license obtained for the Project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Remarks:**

**Findings of Site Inspection (Sok Kwn Wan):  
(28 December 2010)**

**Follow up:  
Rectified on**

No environmental issue was observed during the site inspection.

IEC's representative

RE's representative

ET's representative

EO's representative

Contractor's representative



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( Nicola Hon )

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## **Appendix L**

### **Implementation Schedule of Mitigation Measures**



### Implementation Schedule of Air Quality Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
					D	C	O	
<b>Construction Phase</b>								
3.32	2.34	Installation of 2m high solid fences around the construction site of Pumping Station P2.	Work site / during construction	Contractor		√		
3.34	2.34	Adopting the following good site practices and follow the dust control requirements of the Air Pollution Control (Construction Dust) Regulation: <ul style="list-style-type: none"> <li>• Stockpiles of imported material kept on site should be contained within hoardings, dampened and / or covered during dry and windy weather;</li> <li>• Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses;</li> <li>• Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like.</li> <li>• 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.</li> </ul>	Work site / during construction	All contractors		√		EIAO-TM, APCO, Air Pollution Control (Construction Dust) Regulation
3.36	Section 2	1 hour and 24 hour dust monitoring and site audit	Designated air monitoring locations / throughout construction period	Contractor/ Environmental Team		√		EM&A Manual

\* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

\*\* D=Design, C=Construction, O=Operation

N/A Not applicable

### Implementation Schedule of Noise Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location/Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines
					D	C	O	
<b>Construction Phase</b>								
4.41-4.43	3.19	<ul style="list-style-type: none"> <li>• Use of quiet PME for the construction of the pumping stations</li> <li>• Use of temporary noise barrier during the construction of Pumping Station P1a</li> </ul>	Work site /during the construction of Pumping Stations	Contractor		√		EIAO-TM, NCO
4.44 – 4.49	3.19	Implementation of following measures during the sewer construction: <ul style="list-style-type: none"> <li>• Use of quiet PME or method;</li> <li>• Restriction on the number plant (1 item for each type of plant); and</li> <li>• Good Site Practices                             <ul style="list-style-type: none"> <li>➤ Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.</li> <li>➤ Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>➤ Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> <li>➤ Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> <li>➤ Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul> </li> </ul>	Work site /during the construction of Sewer.	Contractor		√		

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location/Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines
					D	C	O	
4.50 – 4.53	3.19	<ul style="list-style-type: none"> <li>Use of noise screening structures such as acoustic shed and barrier wherever practicable and feasible in areas with sufficient clearance and headroom.</li> <li>Adoption of manual working method wherever practicable and feasible in areas where the worksites of the proposed sewer alignment are located less than 20 m from the residential NSRs and less than 30 m from the temple (THT) and the public library.</li> <li>Use of PME for the construction of the section of sewer between the NSR and the Pumping Station P1a should not be allowed during the excavation work of Pumping Station P1a.</li> </ul>	Work site /during the construction of Sewer.	Contractor		√		
4.60	Section 35	Noise monitoring	Designated noise monitoring locations / throughout construction period	Contractor/ Environmental Team		√		EM&A Manual

\* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.  
 \*\* D=Design, C=Construction, O=Operation  
 N/A Not applicable

### Implementation Schedule of Water Quality Control Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location (duration /completion of measures)	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines
					D	C	O	
<b>Construction Phase</b>								
5.77	4.35	No-dig method using Horizontal Directional Drilling (HDD) would be used for the installation of outfall pipe of about 480 m from shore to minimize the potential water quality impacts arising from the dredging works required for the submarine outfall construction.  Silt curtains will be installed around the exit area of the pilot drill.	Marine works site / During construction of submarine outfall	Contractor		√		
5.73 – 5.78	4.36	Dredging Works Implementation of following measures during the dredging works: <ul style="list-style-type: none"> <li>dredging should be undertaken using closed grab dredgers with a maximum total production rate of 55m<sup>3</sup>/hr;</li> <li>deployment of 2-layer silt curtains with the first layer enclosing the grab and the second layer at around 50m from the dredging area while dredging works are in progress;</li> <li>dredging operation should be undertaken during ebb tide only;</li> <li>all vessels should be sized such that adequate clearance (i.e. minimum clearance of 0.6m) is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> <li>all pipe leakages should be repaired promptly and plant should not be operated with leaking pipes;</li> <li>excess material should be cleaned from the decks and exposed fittings of barges before the vessel is moved;</li> <li>adequate freeboard (i.e. minimum of 200mm) should be maintained on barges to ensure that decks are not washed by wave action;</li> <li>all barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</li> <li>loading of barges should be controlled to prevent splashing of dredged material to the surrounding water, and barges should not</li> </ul>	Marine works site and at the identified water sensitive receivers/ During construction	Contractor		√		

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location (duration /completion of measures)	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines
					D	C	O	
		be filled to a level which will cause the overflow of materials or polluted water during loading or transportation; and <ul style="list-style-type: none"> <li>the decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.</li> </ul>						
5.79	4.37	<u>Construction Run-off and Drainage</u> Implementation of the following site practices outlined in ProPECC PN 1/94 for “Construction Site Drainage” <ul style="list-style-type: none"> <li>Provision of perimeter channels to intercept storm-runoff from outside the site. These should be constructed in advance of site formation works and earthworks.</li> <li>Works programmes should be designed to minimize works areas at any one time, thus minimizing exposed soil areas and reducing the potential for increased siltation and runoff.</li> <li>Sand / silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove the sand / silt particles from run-off. These facilities should be properly and regularly maintained. These facilities should be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site.</li> <li>Careful programming of the works to minimise soil excavation works during rainy seasons.</li> <li>Exposed soil surface should be protected by paving or hydroseeding as soon as possible to reduce the potential of soil erosion.</li> <li>Trench excavation should be avoided in the wet season, and if necessary, these should be excavated and backfilled in short sections.</li> <li>Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric</li> </ul>	Construction works sites	Contractor		√		ProPECC PN 1/94
5.80	4.38	<u>General Construction Activities</u> Debris and rubbish generated on-site should be collected, handled and	Construction works sites	Contractor		√		

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location (duration /completion of measures)	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines
					D	C	O	
		disposed of properly to avoid entering the nearby coastal waters and stormwater drains. All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. Open drainage channels and culverts near the works areas should be covered to block the entrance of large debris and refuse.						
5.81	4.39	<u>Wastewater Arising from Workforce</u> Portable toilets should be provided by the Contractors, where necessary, to handle sewage from the workforce. The Contractor should also be responsible for waste disposal and maintenance practices.	Construction works sites	Contractor		√		
5.96	Section 4	Water quality monitoring	Designated water monitoring locations/ throughout construction period	Contractor		√		EM&A Manual

\* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

\*\* D=Design, C=Construction, O=Operation

N/A Not applicable

### Implementation Schedule of Sediment Contamination Mitigation Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
					D	C	O	
6.17	5.3	Follow the requirement and procedures for dredged mud disposal specified under the WBTC No. 34/2002.	Marine works site / during dredging works	Contractor		√		WBTC No. 34/2002
6.18	5.4	Implement appropriate dredging methods which have been incorporated into the recommended water quality mitigation measures.	Marine works site, during dredging works	Contractor		√		
6.19	5.5	During the transportation and disposal of the dredged sediment, the following measures should be taken: <ul style="list-style-type: none"> <li>• Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.</li> <li>• Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels should be equipped with automatic self monitoring devices as specified by the DEP.</li> </ul>	Marine works site and at the identified sensitive receivers	Contractor		√		

\* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

\*\* D=Design, C=Construction, O=Operation

N/A Not applicable

### Implementation Schedule of Solid Waste Management Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines
					D	C	O	
<b>Construction Phase</b>								
7.14	6.4	<u>Good site practices</u> <ul style="list-style-type: none"> <li>Nomination of an approved person, such as a site manager, to be responsible for implementation of good site practices, arranging for collection and effective disposal to an appropriate facility, of all wastes generated at the site</li> <li>Training (proper waste management and chemical handling procedure) should be provided for site staffs</li> <li>Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.</li> <li>Provision of sufficient waste disposal points and regular collection for disposal.</li> <li>Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Facility.</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> <li>Maintain records of the quantities of wastes generated, recycled and disposed.</li> </ul>	Work sites/During construction	Contractor		√		Waste Disposal Ordinance (Cap.54)
7.15	6.5	To monitor the disposal of C&D waste at landfills and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.	Work sites/During construction	Contractor		√		WBTC No. 21/2002
7.16	6.6	Recommendations to achieve waste reduction include: <ul style="list-style-type: none"> <li>segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>to encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated</li> </ul>	Work sites/During construction	Contractor		√		WBTC No. 4/98, 5/98



EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines
					D	C	O	
		by the work force; <ul style="list-style-type: none"> <li>any unused chemicals or those with remaining functional capacity should be recycled;</li> <li>use of reusable non-timber formwork to reduce the amount of C&amp;D material;</li> <li>prior to disposal of C&amp;D waste, it is recommended that wood, steel and other metals should be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill;</li> <li>proper storage and site practices to minimise the potential for damage or contamination of construction materials; and</li> <li>plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> </ul>						
7.18	6.7	<u>General Site Wastes</u> <ul style="list-style-type: none"> <li>A collection area for construction site waste should be provided where waste can be stored prior to removal from site</li> <li>An enclosed and covered area for the collection of the waste is recommended to reduce 'wind blow' of light material</li> </ul>	Work sites/During construction	Contractor		√		Public Health and Municipal Services Ordinance (Cap. 132)
7.19-7.20	6.8 – 6.9	<u>Chemical Wastes</u> <ul style="list-style-type: none"> <li>After use, chemical waste should be handled according to the Code of Practice on the Package, Labelling and Storage of Chemical Wastes</li> <li>Any unused chemicals or those with remaining functional capacity should be recycled</li> <li>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 licenced facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation under the Waste Disposal Ordance.</li> </ul>	Work sites/During construction	Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Wastes

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines
					D	C	O	
		<ul style="list-style-type: none"> <li>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.</li> <li>Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should be undertaken within the designated areas equipped control these discharges</li> </ul>						
7.21-7.22	6.10 – 6.11	<p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> <li>The C&amp;D waste should be separated on-site into three categories: <ul style="list-style-type: none"> <li>➤ public fill, the inert portion of the C&amp;D material (e.g. concrete and rubble), which should be re-used on-site or disposed of at a public filling area;</li> <li>➤ C&amp;D waste for re-use and / or recycling, the non-inert portion of the C&amp;D material, (e.g. steel and other metals, woods, glass and plastic);</li> <li>➤ C&amp;D waste which cannot be re-used and / or recycled (e.g. wood, glass and plastic)</li> </ul> </li> <li>Where possible, inert material should be re-used on-site</li> <li>Where practicable, steel and other metals should be separated for re-use and/or recycling prior to disposal of C&amp;D material</li> </ul>	During all construction phases	Contractors		√		WBTC No. 4/98, 5/98, 21/2002, 25/99, 12/2000

\* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

\*\* D=Design, C=Construction, O=Operation

N/A Not applicable

### Implementation Schedule of Ecological Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
					D	C	O	
<b>Construction Phase</b>								
8.157	7.2	<u>Terrestrial Ecology</u> <ul style="list-style-type: none"> <li>Labeling and fencing of the uncommon tree species</li> <li>Avoidance of use of woodland habitats as Works Area, in particular where trees are located</li> </ul>	Work sites / during construction phase	Contractor		√		
8.159 – 8.160	7.3	<u>Subtidal Ecology</u>  Use of HDD technique  Dredging <ul style="list-style-type: none"> <li>Use of closed-grab dredger</li> <li>Deploy silt curtains during dredging.</li> </ul>	Marine works site / during dredging works	Contractor		√		
8.161	7.4	Site runoff <ul style="list-style-type: none"> <li>Construction and maintenance of sand / silt removal facilities</li> <li>Silt curtains</li> <li>Timing of earthworks</li> <li>Coverage of sand / fill piles during storms.</li> <li>Barriers along the landward side of Pumping Station P2 site boundary (to prevent site runoff from entering area with Romer's Tree Frog)</li> </ul>	All work sites / during construction phase	Contractor		√		

\* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

\*\* D=Design, C=Construction, O=Operation

N/A Not applicable

### Implementation Schedule of Fisheries Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
					D	C	O	
9.29	8.3	Use of closed grab dredging and silt curtains around the immediate dredging area and low dredging rates as recommended in Water Quality of the EIA report	Marine works site, during dredging works	Contractor		√		TM on EIA Process
9.32	Section 8	Water quality monitoring (see Implementation Schedule for Water Quality Control Measures)	Designated monitoring locations / throughout construction period and 1 year following operation of the STW	Contractor and Environmental Team		√	√	EM&A Manual

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\*\* D=Design, C=Construction, O=Operation

N/A Not applicable

### Implementation Schedule of Landscape and Visual Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines
					D	C	O	
<b>Construction Phase</b>								
10.74	9.10	Retaining existing trees and minimizing damage to vegetation by close coordination and on site alignment adjusted of rising main and gravity sewer pipelines.	All sites	Contractor		√		WBTC No. 14/2002
		Careful and efficient transplanting of affected trees to temporary or final transplant location (the proposed tree to be transplanted is a semi-mature <i>Macaranga tanarius</i> and is located at the proposed Pumping Station P2 location).	All sites	Contractor		√		WBTC No. 14/2002
		Short excavation and immediate backfilling sections upon completion of works to reduce active site area.	All sites	Contractor		√		
		Screening of site construction works by use of hoarding that is appropriate to its site.	All sites	Contractor		√		WBTC No. 19/2001
		Conservation of topsoil for reuse.	All sites	Contractor		√		
		Night-time light source from marine fleets should be directed away from the residential units.	Outfall area.	Contractor		√		

\* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

\*\* D=Design, C=Construction, O=Operation

N/A Not applicable

# **Appendix M**

## **Tree Inspection Report**

經緯園藝有限公司

Melofield Nursery & Landscape Contractor Ltd

元朗宏業東街宏業工貿中心 7 樓 A 室 FLAT A, 7/F, WANG YIP CENTRE, 18 WANG YIP ST. EAST, YUEN LONG, N.T.

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Project Name: Construction of Sewage Treatment  
works at Yung Shu Wan and Sok Kwu Wan

Contract No. DC/2009/13

**Sok Kwu Wan**

**Tree Inspection Report for CT7, CT8, CT9,**

**CT10**

**2010-11-23**

Project Name: Construction of Sewage Treatment  
works at Yung Shu Wan and Sok Kwu Wan

Contract No. DC/2009/13

Sok Kwu Wan

A tree inspection was carried out on 23-11-2010. Observations and comment are described below and photo records are attached in **Annex A** for reference

**CT7 (Tree Survey Report - Vegetation No. T7)**

No more new leaf was found. The plant may enter the dormant period. The health condition has no significant improvement. Regular monitoring and watering should be conducted.

**CT8 (Tree Survey Report - Vegetation No. T10)**

No more new leaf was found. The plant may enter the dormant period. The health condition has no significant improvement. Regular monitoring and watering should be conducted.

**CT9 (Tree Survey Report - Vegetation No. T9)**

As the plant may enter the dormant period and the recovery rate is slower for larger planter, no new leaves were found in this inspection. Regular monitoring and watering should be conducted.

**CT10 (Tree Survey Report - Vegetation No. T8)**

As the plant may enter the dormant period and the recovery rate is slower for larger planter, no new leaves were found in this inspection. Regular monitoring and watering should be conducted.



**Overall**

As the winter come, organic mulch should be used to cover the soil around the plants. The mulch can maintain a stable temperature and moisture. All trees should keep regular monitor. Watering for these plants should depend on the weather condition and the frequency should reduce as the temperature decrease.

**Annex A - Photo Records of Tree CT7, CT8, CT9, CT10**



Photo 1 Overall view of CT7 (Tree Survey Report - Vegetation No. T7)



Photo 2 Overall view of CT8 (Tree Survey Report - Vegetation No. T10)



Photo 3 Overall view of CT9 (Tree Survey Report - Vegetation No. T9)



Photo 4 Overall view of CT10 (Tree Survey Report - Vegetation No. T8)

經緯園藝有限公司

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**Sok Kwu Wan**

**Tree Inspection Report for CT7, CT8, CT9,**

**CT10**

**2010-12-23**

Project Name: Construction of Sewage Treatment  
works at Yung Shu Wan and Sok Kwu Wan

Contract No. DC/2009/13

Sok Kwu Wan

A tree inspection was carried out on 23-12-2010. Observations and comment are described below and photo records are attached in **Annex A** for reference

**CT7 (Tree Survey Report - Vegetation No. T7)**

No leaf was found. The plant may enter the dormant period. The health condition has no significant change. Mulching, soil conditioner and fertilizer were added to improve the soil chemical and organic environment. Regular monitoring and watering should be conducted.

**CT8 (Tree Survey Report - Vegetation No. T10)**

No leaf was found. The plant may enter the dormant period. The health condition has no significant change. Mulching, soil conditioner and fertilizer were added to improve the soil chemical and organic environment. Regular monitoring and watering should be conducted.

**CT9 (Tree Survey Report - Vegetation No. T9)**

No leaf was found. The plant may enter the dormant period. The health condition has no significant change. Mulching, soil conditioner and fertilizer were added to improve the soil chemical and organic environment. Regular monitoring and watering should be conducted.

**CT10 (Tree Survey Report - Vegetation No. T8)**

No leaf was found. The plant may enter the dormant period. The health condition has no significant change. Mulching, soil conditioner and fertilizer were added to improve the soil chemical and organic environment. Regular monitoring and

watering should be conducted.

**Overall**

Improvement action had carried out in this inspection. All trees should keep regular monitor. Watering for these plants should depend on the weather condition and the frequency should reduce as the temperature decrease. If the condition of these plants is deteriorate, more frequently inspection and improvement action should be carried out.

**Annex A - Photo Records of Tree CT7, CT8, CT9, CT10**





Photo 1 Overall view of CT7 (Tree Survey Report - Vegetation No. T7)



Photo 2 Overall view of CT8 (Tree Survey Report - Vegetation No. T10)



Photo 3 Overall view of CT9 (Tree Survey Report - Vegetation No. T9)



Photo 4 Overall view of CT10 (Tree Survey Report - Vegetation No. T8)