



PROJECT NO.: TCS/00512/09

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

**YUNG SHUE WAN PORTION AREA  
MONTHLY ENVIRONMENTAL MONITORING AND AUDIT  
(EM&A) REPORT (NO.53) – JANUARY 2015**

PREPARED FOR  
**LEADER CIVIL ENGINEERING CORPORATION LIMITED**

**Quality Index**

<b>Date</b>	<b>Reference No.</b>	<b>Prepared By</b>	<b>Approved By</b>
27 February 2015	TCS00512/09/600/R0861v2	 Martin Li Assistant Environmental Consultant	 T.W. Tam Environmental Team Leader

<b>Version</b>	<b>Date</b>	<b>Description</b>
1	12 February 2015	First Submission
2	27 February 2015	Amended against IEC's comment on 17 February 2015

# URS CDM Joint Venture

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

Your reference:

Our reference:

05117/6/16/437901

Date:

12 March 2015

Attention: Mr. P. F. Ma

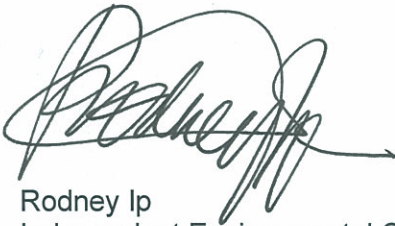
**BY FAX**

Dear Sir,

**Contract No. DC/2009/13**  
**Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan**  
**Yung Shue Wan Portion Area**  
**Monthly Environmental Monitoring and Audit (EM&A) Report No. 53 (January 2015)**

We refer to the Monthly EM&A Monitoring Report No. 53 for January 2015 received under cover of the email from the Environmental Team, Action-United Environmental Services and Consulting (AUES), dated on 12 March 2015. We have no comment and have verified the captioned report.

Yours faithfully  
URS CDM JOINT VENTURE



Rodney Ip  
Independent Environmental Checker

ICWR/DCYO/wwsc

Encl

cc	Leader Civil Engineering	(Attn: Mr Ron Hung)
	AUES	(Attn: Mr T.W. Tam)
	ER/LAMMA	(Attn: Mr Kenneth Kwong)
	CDM	(Attn: Mr Sylvester Hsu)

## EXECUTIVE SUMMARY

ES.01. This is the **53<sup>rd</sup>** monthly Environmental Monitoring and Audit (EM&A) for Yung Shue Wan (hereinafter ‘this Report’) for the designated works under Environmental Permit [EP-282/2007], covering a period from **1 January 2015** to **31 January 2015** (hereinafter ‘the Reporting Period’).

### ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

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

Issues	Environmental Monitoring Parameters / Inspection	Occasions
Air Quality	1-hour TSP	<b>30</b>
	24-hour TSP	<b>12</b>
Construction Noise	L <sub>eq</sub> (30min) Daytime	<b>4</b>
Inspection / Audit	ET Regular Environmental Site Inspection	<b>4</b>

ES.03. According to the construction information provided by the Contractor, the marine works in Yung Shue Wan has been completed on 22 April 2013. As agreed by the Contractor, IEC and RE, the ecology was ceased in May 2013 due to no ecological impact and concern since the completion of marine work, whereas impact marine water quality monitoring was terminated in July 2013. In this regards, an associated letter ref. TCS00512/10/300/L0656 dated 28 June 2013 has been issued to EPD for approval and no comment was received.

ES.04. According to the construction information provided by the Contractor, the Yung Shue Wan Sewage Treatment Works (YSW STW) has been handed over to maintenance authority Drainage Services Department (DSD/ST2) for operation on 31 December 2014. As agreed by the Contractor, IEC and RE, the construction phase EM&A programme was terminated on 31 December 2014 and the EM&A programme has been proceeded to operation phase on 1 January 2015. In this regards, an associated letter ref. TCS0052/10/300/L0856 date 20 January 2015 has been issued to EPD for approval. To avoid absent of monitoring data before the proposal get agreed by the EPD, the impact monitoring under EM&A programme is ongoing until 31 January 2015.

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

ES.05. No exceedance in air quality and construction noise monitoring was recorded in this Reporting Period. 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	L <sub>eq</sub> (30min) Daytime	0	0	0	--	--

Note: NOE – Notification of Exceedance

### SITE INSPECTION

ES.06. In this Reporting Period, **4** events of weekly joint inspection by the RE, the Contractor and ET were carried out on **6, 13, 20** and **27 January 2015**.

### ENVIRONMENTAL COMPLAINT, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.07. No written or verbal complaint, environmental summons or successful prosecutions were recorded in this Reporting Period.

**REPORTING CHANGE**

ES.08. In this Reporting Period, no reporting changes were made.

**FUTURE KEY ISSUES**

ES.09. During dry and windy season, the Contractor shall pay attention on the construction dust that may cause environmental issues in the upcoming months. Mitigation measures on construction dust identified at the EM&A manual such as watering at haul road and covering of dusty material should be fully implemented.

ES.10. Nevertheless, the Contractor shall keep paying attention on the potential water impact as the construction site is adjacent to the coastline. 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 should be avoided. Therefore, mitigation measures for water quality should be fully implemented.

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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 Kwu 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 (EP) 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 Kwu Wan and Yung Shue 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 (ET) to implement the environmental monitoring and auditing works to fulfill the requirements as stipulated in the EM&A Manual. This EM&A Manual is referred to the Appendix D of the Review Report on EIA Study – Yung Shue Wan (Final) in January 2007 (Agreement No. CE 20/2005(DS)).
- 1.04 Action-United Environmental Services and Consulting (AUES) has been commissioned by Leader as the ET to implement the relevant EM&A programme. 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 This is the **53<sup>rd</sup>** monthly EM&A Report for Yung Shue Wan Portion Area which presenting the monitoring results and inspection findings in the Reporting Period from **1 January 2015 to 31 January 2015**.

### REPORT STRUCTURE

- 1.06 The Monthly Environmental Monitoring and Audit (EM&A) Report – Yung Shue 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>
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<b>SECTION 9</b>	<b>SITE INSPECTIONS</b>
<b>SECTION 10</b>	<b>ENVIRONMENTAL COMPLAINTS AND NON-COMPLIANCE</b>
<b>SECTION 11</b>	<b>IMPLEMENTATION STATUES OF MITIGATION MEASURES</b>
<b>SECTION 12</b>	<b>IMPACT FORECAST</b>
<b>SECTION 13</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 three month rolling construction programme are enclosed in [Appendix C](#) and the major construction activities undertaken in this Reporting Period are listed below:-

- Site clearance work,
- Operation of E&M equipment by DSD ST2

### SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.03 Summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this Reporting Period 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) Regulation	Notified 19/5/2010 Case No: 317486
2	Chemical Waste Producer Registration	Issued on 8/6/2010 WPN 5213-912-L2720-01
3	Water Pollution Control Ordinance	Issued on 22/9/2010 WT00007566-2010
4	Billing Account for Disposal of Construction Waste	Issued on 26 May 2010 A/C No: 7010815

2.04 Summary of the report submission for EM&A Programme is presented in [Table 2-2](#).

**Table 2-2 Status of EM&A Programme Submission**

Item	EM&A Programme Submission	Status
1	Proposed EM&A Programme for Baseline / Impact Monitoring – Yung Shue Wan (TCS00512/09/600/R0011Ver.5)	Verified by IEC and submitted to EPD on 8 July 2010
2	Method Statement for Coral Monitoring – Yung Shue Wan (TCS00512/09/600/R0071Ver.3)	Verified by IEC and submitted to EPD on 25 November 2010
3	Baseline Air and Noise Monitoring Report - Volume 1 (TCS00512/09/600/R0061Ver.3)	Verified by IEC and submitted to EPD on 31 August 2010
4	Baseline Monitoring Report Volume 2 - Water Quality (TCS00512/09/600/R0158Ver.2)	Verified by IEC and submitted to EPD on 10 March 2011
5	Baseline Survey for Coral Monitoring – Yung Shue Wan (TCS00512/09/600/R0132Ver.3)	Verified by IEC and submitted to EPD on 17 February 2011
6	Methodology of Coral Tagging for Impact Monitoring – Yung Shue Wan	Verified by IEC and submitted to EPD on 28 March 2011
7	Coral Tagging Report (TCS00512/09/600/R0214Ver.4)	Verified by IEC and submitted to EPD on 3 August 2011



### 3. SUMMARY OF BASELINE MONITORING REQUIREMENTS

#### ENVIRONMENTAL ASPECT

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

**Table 3-1 Summary of the 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>• <math>L_{eq(30min)}</math> during normal working hours; and</li> <li>• <math>L_{eq(15min)}</math> 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 (DO) (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 (SS) (mg/L)</li> </ul>
Ecology	<ul style="list-style-type: none"> <li>• Coral Monitoring</li> </ul>

#### MONITORING LOCATIONS

##### Air Quality

- 3.04 Two designated monitoring stations, AC02a located at Yung Shue Wan Refuse Transfer Station and AC04 located at residential area nearby Yung Shue Wan football pitch, were recommended in the *EM&A Manual Section 2.5*. In order to identify and seek for the access of the air monitoring locations designated in the EM&A Manual, site visit was conducted by Leader and ET.
- 3.05 At the site visit, all designated monitoring locations were identified however the premises for high volume sampler installation were objected by the owner or the residents of nearby. So, alternative air monitoring locations were proposed in accordance with the criteria set out in *EM&A manual Section 2.5.2 and 2.5.3*. The proposed alternative air monitoring stations were accepted by the Engineer Representative (ER) and Independent Environmental Checker (IEC) and EPD for endorsement. Details of renewed air monitoring stations are described in **Table 3-2**. The graphical of air monitoring stations is shown in **Appendix D**.

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

Sensitive Receiver	Location
AC02b	The entrance of RE's site office
AC04c	Next to a power transformer station TP208 Yung Shue Wan and adjacent to the road direct to the construction site

### Construction Noise

- 3.06 According to *EM&A Manual Section 3.4*, one noise sensitive receivers (NC05) designated for the construction noise monitoring was recommended at Yung Shue Wan Portion Area of the Project. The designated monitoring station is identified and successfully granted the premises. The detailed construction noise monitoring station 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
NC05	North Lamma Clinic

### Marine Water Quality

- 3.07 Two control stations (CY1 and CY2) and three impact stations (WY1-WY3) were recommended in the *EM&A Manual Section 4.5*. Impact stations WY1-WY3 were identified close to the sensitive receivers (the coral colonies in the vicinity of Yung Shue Wan, and secondary contact recreation subzone). It is proposed to monitor the impacts from the construction of the submarine outfall as well as the effluent discharge from the proposed STW on water quality. Two control stations: CY1 and CY2 were recommended at locations representative of the project site in its undisturbed condition and located at upstream and downstream of the works area. The marine water quality monitoring stations to be performed under the Project is described in **Table 3-4** and shown in **Appendix D**.

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

Station	Description	Coordinates	
		Easting	Northing
WY1	Coral colonies on seawall at STW site	829 170	809 550
WY2	Coral colonies at Shek kok Tsui	829 000	810 400
WY3	Coral colonies at O Tsai (headland N at SW ferry pier)	829 200	809 850
CY1 (flood)	Control Station	828 400	810 800
CY2 (ebb)	Control Station	828 000	808 800

### Coral Monitoring

- 3.08 The coral monitoring stations to be performed under the Project is show in **Appendix D**. The ecology monitoring was ceased since the completion of marine work on 22 April 2013.

### **MONITORING FREQUENCY AND PERIOD**

- 3.09 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, 4.8, 7.3 and 7.4*. 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:  $L_{eq(30min)}$  &  $L_{eq(5min)}$ ,  $L_{10}$  and  $L_{90}$ .  
 $L_{eq(15min)}$  &  $L_{eq(5min)}$ ,  $L_{10}$  and  $L_{90}$  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

**Coral Monitoring**

Parameters: Presence and coverage of hard and soft corals such as diversity, abundance and health status of the corals in the general area, plus other physical and biological condition at the underwater environment

Frequency: One per week for the first three months of the marine works. If no exceedances are reported during the first three months, the frequency may be reduced to twice every month

Duration: During the course of marine works

**Post-Construction Monitoring – Marine Water**

- 3.10 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.

**Post-Construction Monitoring – Ecology Monitoring**

- 3.11 Following completion of the marine works, post project monitoring should be carried out within two weeks of completion of the marine works (HDD and dredging), and should comprise the same two-tier Rapid Assessment Ecological Assessment (REA) method adopted for the baseline survey.

**MONITORING EQUIPMENT**

**Air Quality Monitoring**

- 3.12 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.

**1-hour TSP**

- 3.13 The 1-hour TSP monitor, a TSI Dust Track Aerosol Monitor Model 8520 or Sibata LD-3 Laser Dust Meter is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consisted of the following:
- A pump to draw sample aerosol through the optic chamber where TSP is measured;
  - A sheath air system to isolate the aerosol in the chamber to keep the optics clean for

- maximum reliability; and
- c. A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

24-hour TSP

- 3.14 The equipment used for 24-hour TSP measurement will be a TISCH High Volume Air Sampler, HVS Model TE-5170, which complied with EPA Code of Federal Regulation, Appendix B to Part 50. The HVS consists of the following:
- An anodized aluminum shelter;
  - A 8"x10" stainless steel filter holder;
  - A blower motor assembly;
  - A continuous flow/pressure recorder;
  - A motor speed-voltage control/elapsed time indicator;
  - A 7-day mechanical timer, and
  - A power supply of 220v/50 hz
- 3.15 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground. The flow rate of the HVS between 0.63m<sup>3</sup>/min and 1.7m<sup>3</sup>/min will be properly set in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-
- A horizontal platform with appropriate support to secure the samples against gusty wind should be provided;
  - No two samplers should be placed less than 2 meters apart;
  - The distance between the sampler and an obstacle, such as building, must be at least twice the height that the obstacle protrudes above the sample;
  - A minimum of 2 meters of separation from any supporting structure, measured horizontally is required;
  - Before placing any filter media at the HVS, the power supply will be checked to ensure the sampler work properly;
  - The filter paper will be set to align on the screen of HVS to ensure that the gasket formed an air tight seal on the outer edges of the filter. Then filter holder frame will be tightened to the filter hold with swing bolts. The holding pressure should be sufficient to avoid air leakage at the edge.
  - The mechanical timer will be set for a sampling period of 24 hours (00:00 mid-night to 00:00 mid-night next day). Information will be recorded on the field data sheet, which would be included the sampling data, starting time, the weather condition at current and the filter paper ID with the initial weight;
  - After sampling, the filter paper will be collected to transfer from the filter holder of the HVS to a sealed in the envelope and sent to a local HOKLAS accredited laboratory for quantifying.
- 3.16 All the sampled 24-hour TSP filters will be kept in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25°C, for six months prior to disposal.
- 3.17 The HVS used for 24-hour TSP monitoring will be calibrated before the commencement for sampling, and after in two months interval for 1 point checking of maintenance and six months interval for five points calibrate in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5028A) to establish a relationship between the follow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, Qstd, in m<sup>3</sup>/min.

Noise Monitoring

- 3.18 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.
- 3.19 All noise measurements will be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). Leq(30 min) in six consecutive Leq(5 min) measurements will be used as the monitoring parameter for the time period between 0700-1900 hours on weekdays throughout the construction period. Leq(15 min) in three consecutive Leq(5 min) measurements for other time periods (e.g. during restricted hours) will only be conducted for monitoring the construction noise during restricted hours as necessary.
- 3.20 The sound level meter will be mounted on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield will be fitted for all measurements. Where a measurement is to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement is to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces such as adjacent buildings or walls.
- 3.21 Immediately prior to and following each noise measurement the accuracy of the sound level meter will be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements will be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0dB.
- 3.22 Noise measurements will not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed will be checked with a portable wind speed meter capable of measuring the wind speed in m/s. An acoustic calibrator and sound level meter will be calibrated yearly. A valid of Calibration certificates will be shown in the Environmental Monitoring Report accordingly.

Water Quality Monitoring

- 3.23 Marine water quality monitoring will be conducted at the designated locations in accordance with EM&A Manual. The operating and analytical of sampling procedures are described as below:
- A Global Positioning System (GPS) will be used to ensure that the correct location was selected prior to sample collection. A portable, battery-operated echo sounder will be used for the determination of water depth at each designated monitoring station.
  - The marine water sampler will be lowered into the water body at a predetermined depth. The trigger system of the sampler is activated with a messenger and opening ends of the sampler are closed accordingly then the sample of water is collected.
  - During the sampling, the sampling container will be rinsed to use a portion of the marine water sample before the water sample is transferred to the container. Upon sampling completion, the container is sealed with a screw cap.
  - Before the sampling process, general information such as the date and time of sampling, weather condition and tidal condition as well as the personnel responsible for the monitoring will be recorded on the monitoring field data sheet.
  - In-situ measurement including water temperature, turbidity, dissolved oxygen, salinity, pH and water depth undertake at the identified monitoring point. At each station, marine water samples are collected at three depths: 1m below water surface, 1m above sea bottom and at mid-depth when the water depth exceeds 6m. Samples at 1m below water surface and 1m above sea bottom are collected when the water depth is between 3m and 6m. Only 1 sample at mid-depth is taken when the water depth is below 3m.



- For the in-situ measurement, two consecutive measurements of sampling depth, temperature, dissolved oxygen, salinity, turbidity and pH concentration will be measured at the sea. The YSI Model 6820 Multi-parameter Water Quality Sonde is retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of each set is more than 25% of the value of the first reading, the reading is discarded and further readings is taken.
  - Water sample collection would be used the water sampler. During the water sample collected from the sea, it is fill in high-density polythene bottles. Before the water sample storage, the sampling bottles will be pre-rinsed with the same water sample. The sample bottles then is packed in cool-boxes (cooled at 4°C without being frozen), and delivered to HOKLAS accredited laboratory for the chemical analysis as followed APHA *Standard Methods for the Examination of Water and Wastewater* 19ed 2540D, unless otherwise specified.
  - The laboratory has be comprehensive quality assurance and quality control programmes. For QA/QC procedures, one duplicate samples of every batch of 20 samples is analyzed as followed the HOKLAS accredited requirement.
- 3.24 For the marine water sampling period, the Multi-parameter Water Quality Monitoring System will be calibrated by three month interval accordingly. The available calibration certificate will be issued to ensure the performance of Multi-parameter Water Quality Monitoring System to use for in-situ measurement.
- 3.25 All water samples will be analyzed with various chemical tests as specified in the EM&A Manual by a local HOKLAS-accredited testing laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration no. 66). Duplicate samples from each independent sampling event are required for all parameters and the samples will be mixed and analyzed in one set of laboratory analysis. The mixed process would be carried by the laboratory. The determination works should start within 24 hours after collection of the water samples or within the holding time as advised by the laboratory. The laboratory analysis result will be input in our computer database upon received from the laboratory.

#### Coral Monitoring

- 3.26 The monitoring equipments used for the coral monitoring could be referred to ***Impact Coral Monitoring report.***

#### **EQUIPMENT CALIBRATION**

- 3.27 Calibration of the High Volume Sampler (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.
- 3.28 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.
- 3.29 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.
- 3.30 The Multi-parameter Water Quality Monitoring System will be calibrated by HOKLAS accredited laboratory of three month intervals. The available calibration certificate will be issued to ensure the performance of Multi-parameter Water Quality Monitoring System to use for in-situ measurement.
- 3.31 All updated calibration certificates of the monitoring equipment used for the impact monitoring programme in the Reporting Period would be attached in ***Appendix E.***



#### METEOROLOGICAL INFORMATION

- 3.32 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

- 3.33 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 programme.
- 3.34 The monitoring data recorded in the equipment e.g. 1-hour TSP meter, sound level 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.

#### REPORTING

- 3.35 It was agreed among the ER, IEC, Contractor and ET that, in order to streamline the EM&A report submission and to cater for the occasional delay in obtaining laboratory analysis results, the cutoff day for each month is the 25<sup>th</sup> i.e. the first day of each report is the 26<sup>th</sup> of the last month and the end day, the 25<sup>th</sup> of that month.

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

- 3.36 According to the Yung Shue Wan Environmental Monitoring and Audit Manual, the air quality, construction noise, marine water quality and coral monitoring were established, namely Action and Limit levels are listed in *Tables 3-5 to 3-8* as below.

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

Monitoring Station	Action Level ( $\mu\text{g}/\text{m}^3$ )		Limit Level ( $\mu\text{g}/\text{m}^3$ )	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AC02b	288	161	500	260
AC04c	290	176	500	260

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

Recommended Action & Limit Levels of Construction Noise		
Monitoring Location	Action Level	Limit Level
	0700-1900 hours on normal weekdays	
NC05	When one or more documented complaints are received	75 dB(A) *

Note: \* Reduces to 70dB(A) for schools and 65dB(A) during the school examination periods.

**Table 3-7 Action and Limit Levels for Marine Water Quality**

Parameter	Performance Criteria	Impact Station		
		WY1	WY2	WY3
DO Concentration (Surface and Middle) (mg/L)	Action Level	3.63	3.53	3.61
	Limit Level	3.32	3.47	3.42
DO Concentration (Bottom) (mg/L)	Action Level	3.33	2.92	3.36
	Limit Level	3.23	2.63	3.14
Turbidity (Depth-Average) (NTU)	Action Level	10.94	14.16	14.99
	Limit Level	17.35	15.20	16.21

Parameter	Performance Criteria	Impact Station		
		WY1	WY2	WY3
Suspended Solids (Depth-Average) (mg/L)	Action Level	17.52	14.04	14.52
	Limit Level	25.62	16.51	16.88

**Table 3-8 Action and Limit Levels for Coral Monitoring**

Step	Action
1	Commence tagged coral monitoring at the impact site. If no increase in sedimentation cover/bleaching/partial mortality is observed on the hard corals or partial mortality on the soft/black corals, no action is required. If an increase in sedimentation cover/bleaching/partial mortality is observed on the hard corals or partial mortality on the soft/black corals at one or more impact monitoring stations Step 3 should be enacted, if not, Step 2.
2	If non actions are triggered a formal report should be issued along with evidentiary photographs following completion of the survey. Meanwhile monitoring work and construction works should continue uninterrupted.
3	If during the impact monitoring a 15% increase in the percentage of sedimentation on the hard corals occurs at more than 20% of the tagged coral colonies at the Impact Monitoring Station that is not reported at the Control Monitoring Station, then the Action Level is exceeded (Step 4).
4	If the Action Level is exceeded the IC(E) should inform all parties. The data from the water quality monitoring should also be reviewed. If the water quality monitoring shows no attributable effects of the installation works, then the Action Level is not triggered. If the water quality data indicate exceedances (for SS and/or turbidity) the IC(E) should discuss with the Contractor the most appropriate method of reducing suspended solids during construction (e.g. reduce rate of dredging). The water quality data reviewed should then be enacted on the next working day.
5	Monitoring should proceed the following day as per Step 1. If during the Impact Monitoring a 25% increase in the percentage of sedimentation on the hard corals at more than 20% of the tagged coral colonies at the Impact Monitoring Station that is not reported at the Control Monitoring Station, then the Limit Level is exceeded (Step 6). If the Limit Level is not exceeded Step 2 is enacted and work continues according to the mitigated method.
6	If the Limit Level is exceeded the Inspector Officer should inform all parties immediately. Should the Limit Level be exceeded, the Contractor should stop works immediately and work out a solution to the satisfaction of the IC(E), EPD and AFCD. The IC(E) should inform the Contractor to suspend marine construction works until an effective solution is identified. Once the solution has identified and agreed with all parties, backfilling works may re-commence.

- 3.37 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 the Contractor, the construction of relevant land works at Yung Shue Wan was commenced on 14 September 2010. The impact EM&A programme was begun as compliance with the contract Particular Specification, Yung Shue Wan EM&A Manual and the EP. The impact monitoring schedule for the Reporting Period is presented in [Appendix G](#)

##### Result

4.02 In this Reporting Period, the results for 24-hour and 1-hour TSP monitoring are tabulated in [Tables 4-1 and 4-2](#). The 24-hour TSP monitoring data are shown in [Appendix H](#) and the graphical plots are shown in [Appendix I](#).

**Table 4-1 Summary of 24-hour and 1-hour TSP Monitoring Results at AC02b**

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
2-Jan-15	136	5-Jan-15	12:56	111	118	115
8-Jan-15	71	10-Jan-15	13:19	115	106	104
14-Jan-15	21	16-Jan-15	13:24	91	94	100
20-Jan-15	88	22-Jan-15	13:23	74	75	73
26-Jan-15	54	28-Jan-15	13:18	88	97	112
31-Jan-15	54	--	--	--	--	--
Average (Range)	<b>71</b> <b>(21–136)</b>	Average (Range)		<b>98</b> <b>(73 – 118)</b>		

**Table 4-2 Summary of 24-hour and 1-hour TSP Monitoring Results at AC04c**

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
2-Jan-15	117	5-Jan-15	12:55	106	106	99
8-Jan-15	71	10-Jan-15	13:12	95	86	89
14-Jan-15	23	16-Jan-15	13:06	98	110	121
20-Jan-15	91	22-Jan-15	13:23	66	67	67
26-Jan-15	102	28-Jan-15	13:25	112	111	117
31-Jan-15	67	--	--	--	--	--
Average (Range)	<b>78</b> <b>(23-117)</b>	Average (Range)		<b>97</b> <b>(66 – 121)</b>		

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

4.04 The meteorological information during the impact monitoring days are summarized in [Appendix J](#).

## 5. IMPACT MONITORING RESULTS – CONSTRUCTION NOISE

5.01 The noise monitoring results are presented in the following sub-sections. The impact monitoring schedule for the Reporting Period and next Reporting Period are presented in [Appendix G](#)

### Result

5.02 In this report period, 4 construction noise monitoring events were undertaken at designated location NC05. The results for  $L_{eq(30min)}$  are tabulated in [Tables 5-1](#) and the graphical plots are shown in [Appendix I](#).

**Table 5-1 Summarized of Construction Noise Monitoring Results at NC05**

Date	Start Time	End Time	1 <sup>st</sup> set $L_{eq5}$	2 <sup>nd</sup> set $L_{eq5}$	3 <sup>rd</sup> set $L_{eq5}$	4 <sup>th</sup> set $L_{eq5}$	5 <sup>th</sup> set $L_{eq5}$	6 <sup>th</sup> set $L_{eq5}$	$L_{eq30}$	Corrected $L_{eq30}^*$
5-Jan-15	14:18	14:48	62.1	54.4	55.4	58.4	59.5	60.4	59.1	62.1
16-Jan-15	14:21	14:51	59.3	58.5	59.6	60.5	58.4	59.5	59.4	62.4
22-Jan-15	14:21	14:51	55.6	56.3	54.7	59.7	55.5	56.3	56.7	59.7
28-Jan-15	14:17	14:47	57.6	56.5	54.5	57.7	56.3	60.9	57.7	60.7
<b>Limit Level</b>									-	<b>75 dB(A)</b>

\* A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

5.03 It was noted that no noise complaint (which is an Action Level exceedance) was received. In view of the results shown in [Table 5-1](#), all the values are well below 75dB(A), therefore, no Action or Limit Level exceedance was triggered during this Reporting Period.

## 6. IMPACT MONITORING RESULTS – WATER QUALITY

- 6.01 According to the EM&A Manual of Yung Shue Wan, water quality monitoring should be carried out during the course of marine work. As informed by the Contractor in June 2013, the marine works in Yung Shue Wan has been completed on 22 April 2013. Marine water quality monitoring was therefore terminated in July 2013 after consent was obtained with IEC. In this regards, an associated letter ref. TCS00512/10/300/L0656 dated 28 June 2013 has been issued to EPD for approval and no comment was received.

## 7. IMPACT MONITORING RESULTS – ECOLOGY MONITORING

- 7.01 According to the EM&A Manual of Yung Shue Wan, ecology monitoring should be carried out during the course of marine work. As informed by the Contractor in June 2013, the marine works in Yung Shue Wan has been completed on 22 April 2013. Ecology monitoring was therefore terminated in June 2013 after consent was obtained with IEC. In this regards, an associated letter ref. TCS00512/10/300/L0656 dated 28 June 2013 has been issued to EPD for approval and no comment was received.



## 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 *Tables 8-1* and *8-2* and the Monthly Summary Waste Flow Table is shown in *Appendix K*. Whenever possible, materials were reused on-site as far as practicable.

**Table 8-1 Summary of Quantities of Inert C&D Materials**

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) ('000m <sup>3</sup> )	0	-
Reused in this 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	-

**Table 8-2 Summary of Quantities of C&D Wastes**

Type of Waste	Quantity	Disposal Location
Metals (kg)	0	-
Paper / Cardboard Packing (kg)	0	-
Plastics (kg)	0	-
Chemical Wastes (kg)	0	-
General Refuses (tonne)	5.02	Yung Shue Wan RTS

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 formulation by ET Leader. Regular environmental site inspections had been carried out by the ET to confirm the environmental performance. In this Reporting Period, weekly joint-site visit by RE, the Contractor and ET was carried out on **6, 13, 20** and **27 January 2015**.
- 9.02 The findings/ deficiencies that observed during the weekly site inspection are listed in *Table 9-1* and the relevant checklists are attached in *Appendix L*.

**Table 9-1 Site Observations**

Date	Findings / Deficiencies	Follow-Up Status
6 January 2015	<ul style="list-style-type: none"><li>No environmental issue was observed during the site inspection</li></ul>	NA
13 January 2015	<ul style="list-style-type: none"><li>No environmental issue was observed during the site inspection</li></ul>	NA
20 January 2015	<ul style="list-style-type: none"><li>No environmental issue was observed during the site inspection</li></ul>	NA
27 January 2015	<ul style="list-style-type: none"><li>The Contractor was reminded to clear stagnant water at U-channel for mosquito breeding prevention.</li></ul>	Stagnant water has been removed and the Contractor was reminded to clear the stagnant water regularly.

## 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 10-1, 10-2* and *10-3*.

**Table 10-1 Statistical Summary of Environmental Complaints**

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
14 Sep – 30 September 2011	0	0	NA
October – December 2011	0	0	NA
January –December 2012	0	0	NA
January - December 2013	0	0	NA
January –December 2014	0	0	NA
January 2015	0	0	NA

**Table 10-2 Statistical Summary of Environmental Summons**

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
14 Sep – 30 September 2011	0	0	NA
October – December 2011	0	0	NA
January –December 2012	0	0	NA
January - December 2013	0	0	NA
January –December 2014	0	0	NA
January 2015	0	0	NA

**Table 10-3 Statistical Summary of Environmental Prosecution**

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
14 Sep – 30 September 2011	0	0	NA
October – December 2011	0	0	NA
January –December 2012	0	0	NA
January – December 2013	0	0	NA
January –December 2014	0	0	NA
January 2015	0	0	NA

## 11. IMPLEMENTATION STATUS OF MITIGATION MEASURES

11.01 The environmental mitigation measures that recommended in the Yung Shue 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:

- Stockpiles of imported material kept on site should be contained within hoardings, dampened and / or covered during dry and windy weather;
- Material stockpiled alongside trenches should be covered with tarpaulins whenever works are close to village houses;
- Water sprays should be used during the delivery and handling of cement, sands, aggregates and the like.
- 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 programme.
  - 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;
  - 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

- 11.20 The following general good practice measures should be adopted to mitigate ecological impacts during marine works (including dredging and HOD);
- Excess material from vessel loading should be cleaned from the decks and exposed fittings before vessels are moved to the backfilling location;
  - Dredging should cause no foam, oil, grease, scum, litter or other objectionable matter to be present on the water;
  - Adequate freeboard should be maintained to ensure that decks are not washed by wave action;

- All pie leakages should be repaired promptly and plant Should not be operated with leaking pipes; and
- All banges and other vessels should maintain adequate clearance between vessels and the seabed at all stats of the tide and reduce operational speeds to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

11.21 In the event of exceedances of ecological action or limit level, the Contractor will be required to revise his operations as a further mitigation measure. Revisions to the operation method may include (but not be limited to):

- Reduction in dredging rate’
- Restriction of dredging in particular areas to specific periods in the tidal cycle

11.22 Should repeated non-compliances with limit level(s) occur the Contractor shall modify his working method until he is able to achieve the required compliances with the limit levels to the satisfaction of the IC(E)

**Fisheries Mitigation Measure**

11.23 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**

11.24 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;
- 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

11.25 The implementation schedule of mitigation measures is presented in *Appendix M*.

11.26 Leader had been implementing the required environmental mitigation measures according to the Yung Shue Wan Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by Leader in this Reporting Period are summarized in *Table 11-1*.

**Table 11-1 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>

Issues	Environmental Mitigation Measures
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 spaying 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 **53<sup>rd</sup>** Monthly EM&A Report covering the construction period from **1 January 2015** to **31 January 2015**.
- 13.01 No 1-hour and 24-hour TSP result was found to be triggered the Action or Limit Level in this Reporting Period.
- 13.02 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 Period.
- 13.03 According to the construction information provided by the Contractor, the marine works in Yung Shue Wan has been completed on 22 April 2013. As agreed by the Contractor, IEC and RE, the ecology was ceased in May 2013 due to no ecological impact and concern since the completion of marine work, whereas impact marine water quality monitoring was terminated in July 2013.
- ES.11. According to the construction information provided by the Contractor, the Yung Shue Wan Sewage Treatment Works (YSW STW) has been handed over to maintenance authority Drainage Services Department (DSD/ST2) for operation on 31 December 2014. As agreed by the Contractor, IEC and RE, the construction phase EM&A programme was terminated on 31 December 2014 and the EM&A Programme has been proceeded to operation phase on 1 January 2015. In this regards, an associated letter ref. TCS0052/10/300/L0856 date 20 January 2015 has been issued to EPD for approval. To avoid absent of monitoring data before the proposal get agreed by the EPD, the impact monitoring under EM&A programme is ongoing until 31 January 2015.
- 13.04 No documented complaint, notification of summons or successful prosecution was received.
- 13.05 In this Reporting Period, joint-site visit by RE, the Contractor and ET was carried out on **6, 13, 20** and **27 January 2015**. The environmental performance of the Project was considered as satisfactory.

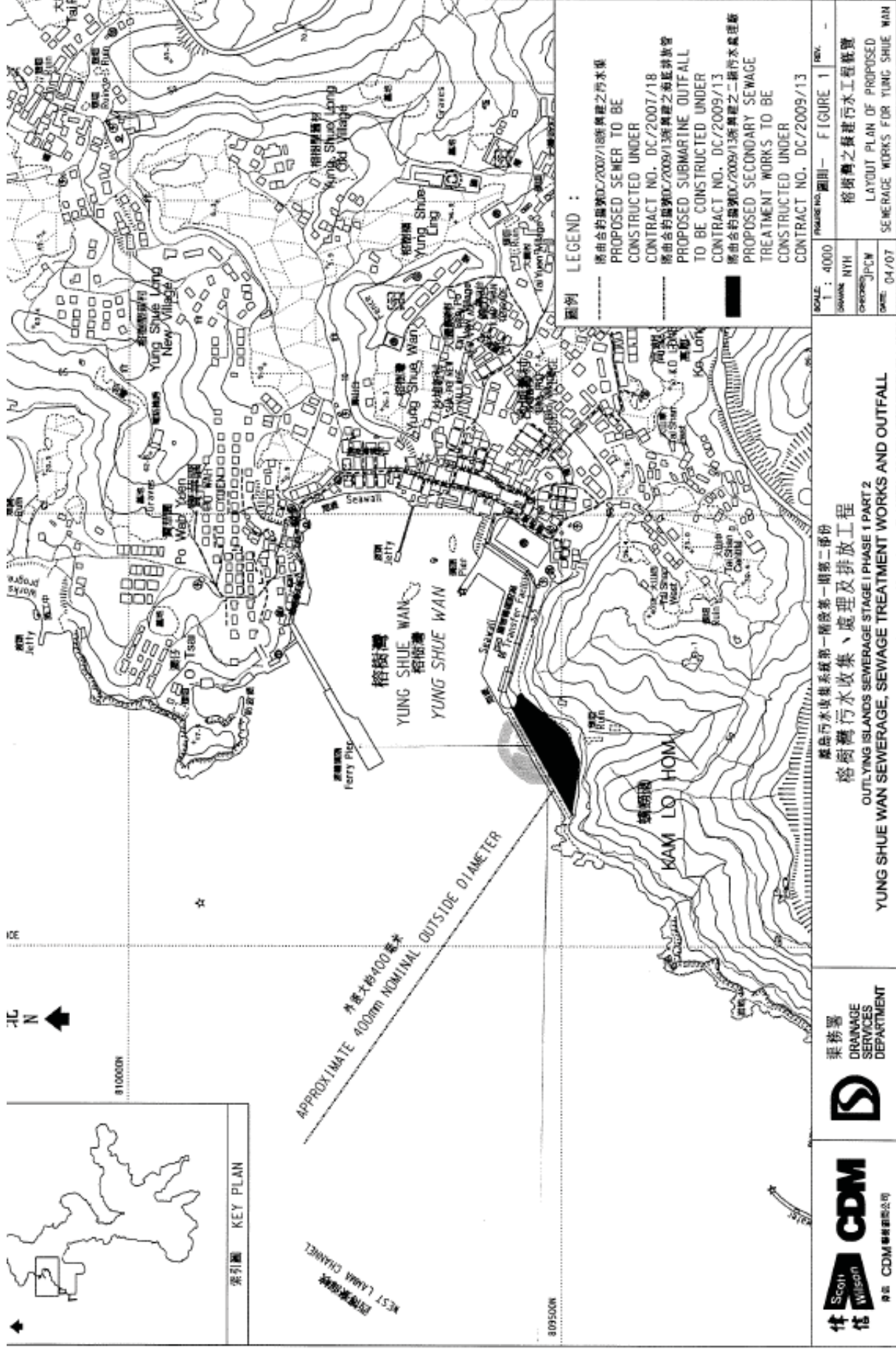
#### RECOMMENDATIONS

- 13.06 During dry and windy season, the Contractor shall pay attention on the construction dust that may cause environmental issues in the upcoming months. Mitigation measures on construction dust identified at the EM&A manual such as watering at haul road and covering of dusty material should be fully implemented.
- 13.07 Nevertheless, the Contractor shall keep paying attention on the potential water impact as the construction site is adjacent to the coastline. 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 should be avoided. Therefore, mitigation measures for water quality should be fully implemented.

## **Appendix A**

### **Site Layout Plan – Yung Shue Wan Portion Area**







## **Appendix B**

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

Contact Details of Key Personnel

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
DSD	Employer	Mr. F K Pong	2159-3550	2833-9162
UCJV	Engineer's Representative	Mr. Kenneth W K Kwong	2982 0240	2982 4129
URS	Independent Environmental Checker	Mr. Rodney Ip	2410 3750	2428 9922
Leader	Director	Mr. Wilfred So	2982 1750	2982 1163
Leader	Contracts Manager	Mr. Vincent Chan	2982 1750	2982 1163
Leader	Site Agent	Mr. Ron Hung	2982 1750	2982 1163
Leader	Environmental Officer	Mr. Leung Man Kin	2982 8652	2982 8650
Leader	Sub-Agent	Mr. Leung Man Kin	2982 1750	2982 1163
Leader	Safety Officer	Ms. Vanessa Chan	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	Team Supervisor	Mr. Ben Tam	2959 6059	2959 6079
AUES	Coral Specialist	Mr. Keith Kei	2959 6059	2959 6079

Legend:

*DSD (Employer) – Drainage Services Department*

*UCJV (Engineer) – URS CDM Joint Venture*

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

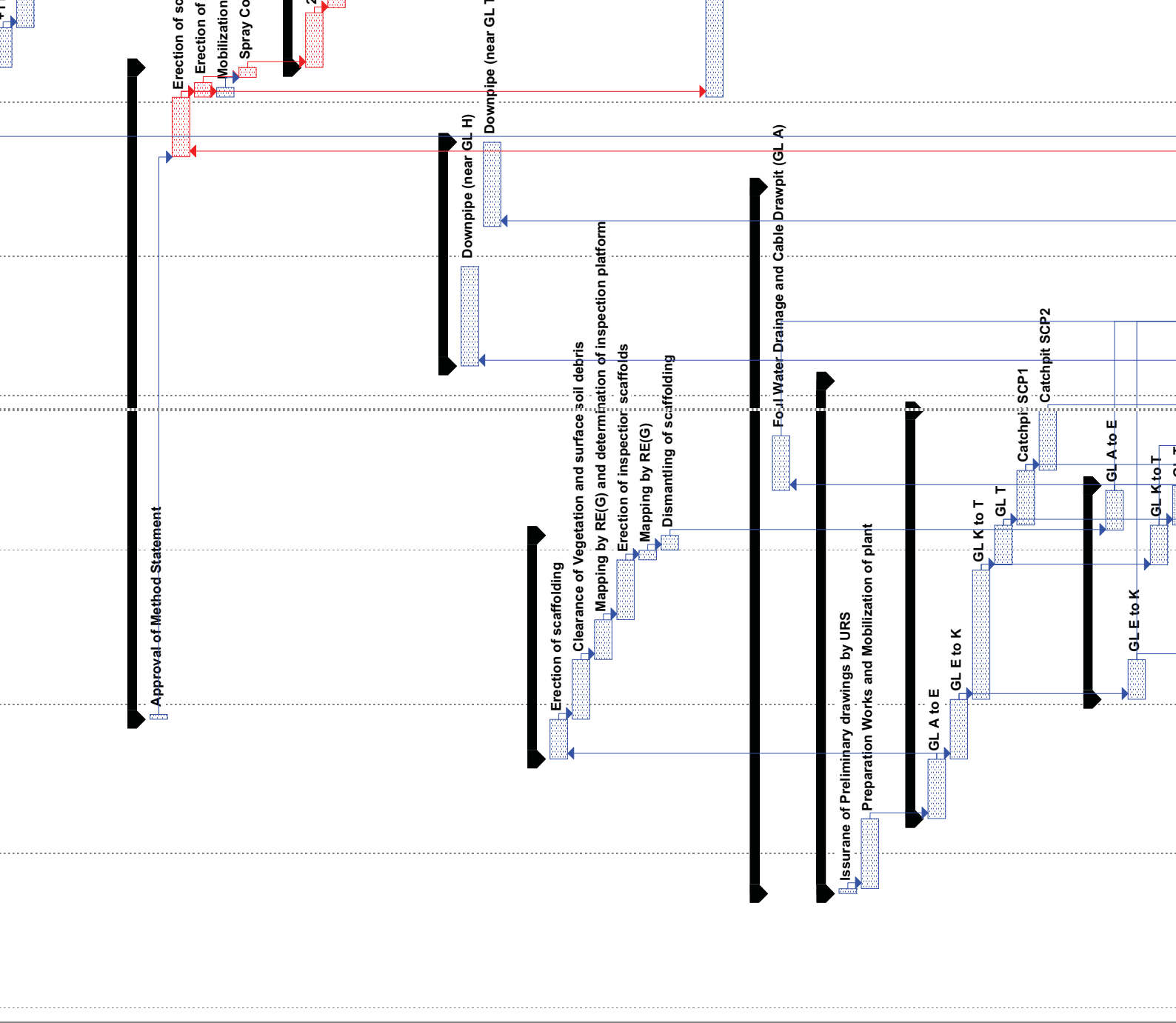
*URS (IEC) – URS Hong Kong Limited*

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

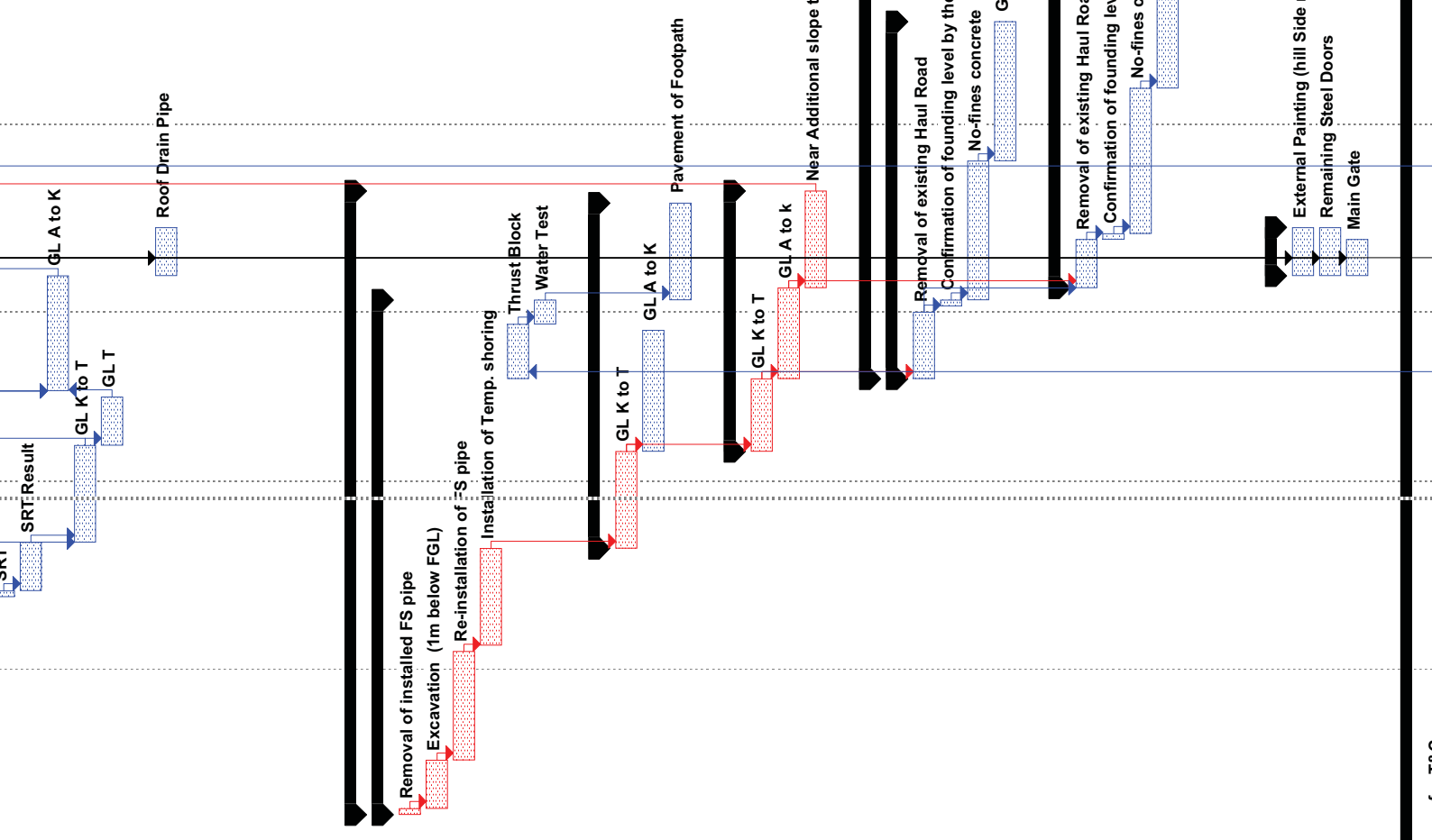
## **Appendix C**

### **Three Months Rolling Construction Programme**

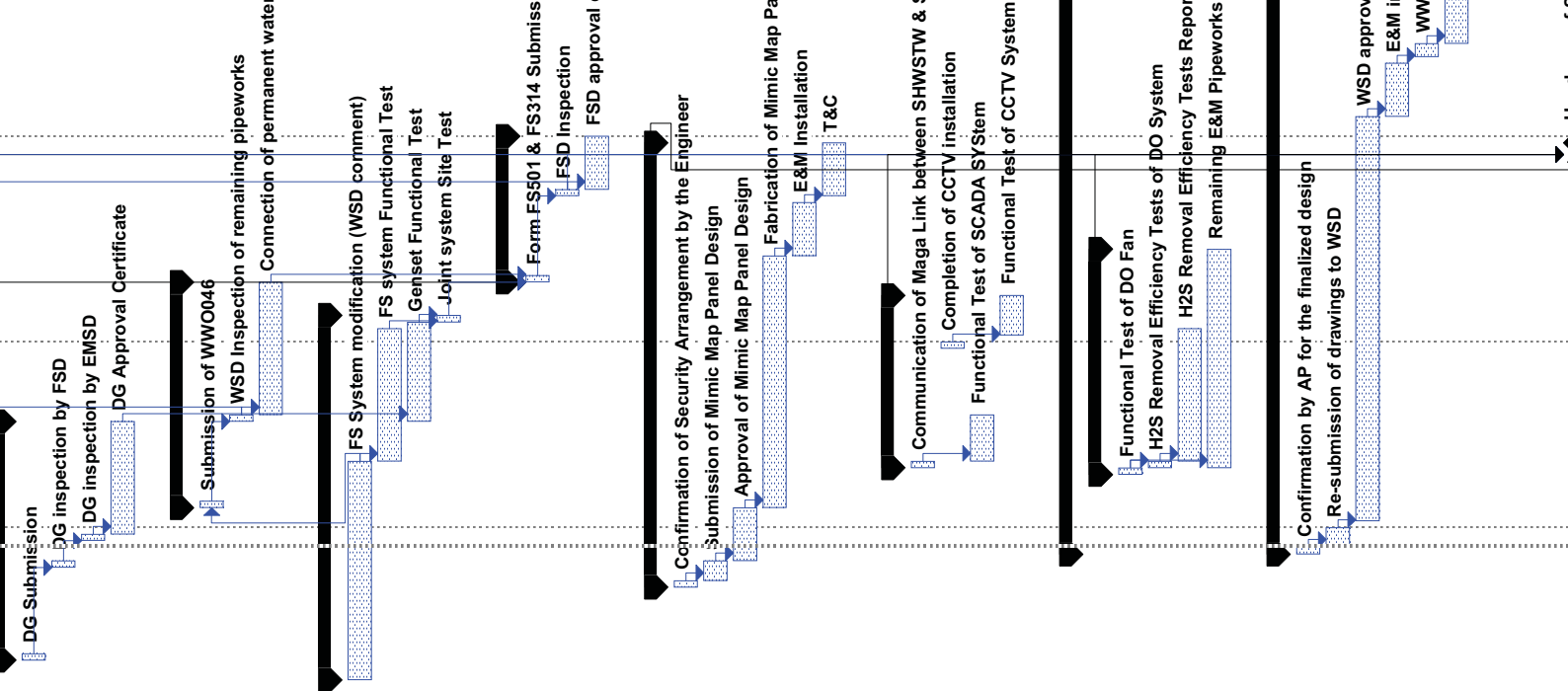
7 days	Wed 04/13	Wed 13/4/15	34
7 days	Thu 16/4/15	Thu 23/4/15	7
5 days	Fri 24/4/15	Wed 29/4/15	8
5 days	Thu 30/4/15	Tue 5/5/15	9
5 days	Wed 6/5/15	Mon 11/5/15	10
<b>107 days</b>	<b>Fri 28/11/14</b>	<b>Tue 7/4/15</b>	
1 day	Fri 28/11/14	Fri 28/11/14	
10 days	Sat 21/3/15	Wed 1/4/15	14,100
3 days	Thu 2/4/15	Sat 4/4/15	15
2 days	Thu 2/4/15	Fri 3/4/15	15
2 days	Mon 6/4/15	Tue 7/4/15	17,16
<b>49 days</b>	<b>Wed 8/4/15</b>	<b>Wed 3/6/15</b>	
10 days	Wed 8/4/15	Sat 18/4/15	18
5 days	Mon 20/4/15	Fri 24/4/15	21
10 days	Sat 25/4/15	Wed 6/5/15	22
14 days	Thu 7/5/15	Fri 22/5/15	23
10 days	Sat 23/5/15	Wed 3/6/15	24
<b>35 days</b>	<b>Sat 7/2/15</b>	<b>Mon 23/3/15</b>	
14 days	Sat 7/2/15	Thu 26/2/15	73
14 days	Sat 7/3/15	Mon 23/3/15	72
<b>37 days</b>	<b>Thu 20/11/14</b>	<b>Sat 3/1/15</b>	
7 days	Thu 20/11/14	Thu 27/11/14	49
10 days	Fri 28/11/14	Tue 9/12/14	32
7 days	Wed 10/12/14	Wed 17/12/14	33
8 days	Thu 18/12/14	Mon 29/12/14	34
2 days	Tue 30/12/14	Wed 31/12/14	35
3 days	Thu 1/1/15	Sat 3/1/15	36
40 days	Thu 2/4/15	Mon 18/5/15	15
<b>117 days</b>	<b>Fri 24/10/14</b>	<b>Sat 14/3/15</b>	
10 days	Tue 13/1/15	Fri 23/1/15	57
<b>86 days</b>	<b>Fri 24/10/14</b>	<b>Tue 3/2/15</b>	
1 day	Fri 24/10/14	Fri 24/10/14	
12 days	Sat 25/10/14	Fri 7/1/15	45
<b>68 days</b>	<b>Sat 8/1/14</b>	<b>Wed 28/1/15</b>	
10 days	Sat 8/1/14	Wed 19/1/14	46
10 days	Thu 20/1/14	Mon 1/12/14	49
21 days	Tue 2/12/14	Sat 27/12/14	50
7 days	Mon 29/12/14	Mon 5/1/15	51
10 days	Tue 6/1/15	Fri 16/1/15	52
10 days	Sat 17/1/15	Wed 28/1/15	53
<b>35 days</b>	<b>Tue 2/12/14</b>	<b>Tue 13/1/15</b>	
7 days	Mon 5/1/15	Mon 12/1/15	37
7 days	Tue 2/12/14	Tue 9/12/14	50
7 days	Mon 29/12/14	Mon 5/1/15	51



1 day	Tue 13/7/15	Wed 14/7/15	7 days	Tue 13/7/15	37
14 days	Mon 16/2/15	Fri 6/3/15	14 days	Fri 6/3/15	58,57,42,7
14 days	Thu 22/1/15	Fri 6/2/15	14 days	Fri 6/2/15	59,71
7 days	Sat 7/2/15	Sat 14/2/15	7 days	Sat 14/2/15	73
7 days	Sat 7/3/15	Sat 14/3/15	7 days	Sat 14/3/15	69
84 days	Mon 8/12/14	Fri 20/3/15	84 days	Fri 20/3/15	
68 days	Mon 8/12/14	Mon 2/3/15	68 days	Mon 2/3/15	
1 day	Mon 8/12/14	Mon 8/12/14	1 day	Mon 8/12/14	85
7 days	Tue 9/12/14	Tue 16/12/14	7 days	Tue 16/12/14	86
14 days	Wed 17/12/14	Sat 3/1/15	14 days	Sat 3/1/15	87
14 days	Mon 5/1/15	Tue 26/1/15	14 days	Tue 26/1/15	141
5 days	Wed 18/2/15	Thu 26/2/15	5 days	Thu 26/2/15	89
3 days	Fri 27/2/15	Mon 2/3/15	3 days	Mon 2/3/15	
46 days	Wed 21/1/15	Wed 18/3/15	46 days	Wed 18/3/15	
14 days	Wed 21/1/15	Thu 5/2/15	14 days	Thu 5/2/15	88
14 days	Fri 6/2/15	Wed 25/2/15	14 days	Wed 25/2/15	93
14 days	Tue 3/3/15	Wed 18/3/15	14 days	Wed 18/3/15	90
34 days	Fri 6/2/15	Fri 20/3/15	34 days	Fri 20/3/15	
10 days	Fri 6/2/15	Tue 17/2/15	10 days	Tue 17/2/15	93
10 days	Wed 18/2/15	Wed 4/3/15	10 days	Wed 4/3/15	98
14 days	Thu 5/3/15	Fri 20/3/15	14 days	Fri 20/3/15	99
78 days	Wed 18/2/15	Fri 22/5/15	78 days	Fri 22/5/15	
48 days	Wed 18/2/15	Fri 17/4/15	48 days	Fri 17/4/15	
7 days	Wed 18/2/15	Sat 28/2/15	7 days	Sat 28/2/15	98
1 day	Mon 2/3/15	Mon 2/3/15	1 day	Mon 2/3/15	104
20 days	Tue 3/3/15	Wed 25/3/15	20 days	Wed 25/3/15	105
20 days	Thu 26/3/15	Fri 17/4/15	20 days	Fri 17/4/15	106
48 days	Thu 5/3/15	Wed 29/4/15	48 days	Wed 29/4/15	
7 days	Thu 5/3/15	Thu 12/3/15	7 days	Thu 12/3/15	104,99
1 day	Fri 13/3/15	Fri 13/3/15	1 day	Fri 13/3/15	110
20 days	Sat 14/3/15	Mon 6/4/15	20 days	Mon 6/4/15	111
20 days	Tue 7/4/15	Wed 29/4/15	20 days	Wed 29/4/15	112
20 days	Thu 30/4/15	Fri 22/5/15	20 days	Fri 22/5/15	113
7 days	Sat 7/3/15	Sat 14/3/15	7 days	Sat 14/3/15	69
7 days	Sat 7/3/15	Sat 14/3/15	7 days	Sat 14/3/15	69
7 days	Sat 7/3/15	Sat 14/3/15	7 days	Sat 14/3/15	69
5 days	Sat 7/3/15	Thu 12/3/15	5 days	Thu 12/3/15	69
181 days	Mon 13/10/14	Sat 16/5/15	181 days	Sat 16/5/15	



31 days	Mon 12/1/15	Mon 10/2/15
1 day	Mon 12/1/15	Mon 12/1/15
1 day	Mon 26/1/15	Mon 26/1/15 134FS+11
1 day	Fri 30/1/15	Fri 30/1/15 135FS+3
14 days	Sat 31/1/15	Mon 16/2/15 136
<b>26 days</b>	<b>Wed 4/2/15</b>	<b>Mon 9/3/15</b>
1 day	Wed 4/2/15	Wed 4/2/15 145FS-6 d
1 day	Tue 17/2/15	Tue 17/2/15 140FS+12
14 days	Wed 18/2/15	Mon 9/3/15 141
<b>44 days</b>	<b>Fri 9/1/15</b>	<b>Wed 4/3/15</b>
28 days	Fri 9/1/15	Tue 10/2/15
14 days	Wed 11/2/15	Mon 2/3/15 145
10 days	Tue 17/2/15	Tue 3/3/15 137
1 day	Wed 4/3/15	Wed 4/3/15 147, 146
<b>19 days</b>	<b>Tue 10/3/15</b>	<b>Tue 31/3/15</b>
1 day	Tue 10/3/15	Tue 10/3/15 69,142,141
1 day	Mon 23/3/15	Mon 23/3/15 151FS+10
7 days	Tue 24/3/15	Tue 31/3/15 152
<b>54 days</b>	<b>Fri 23/1/15</b>	<b>Mon 30/3/15</b>
1 day	Fri 23/1/15	Fri 23/1/15
2 days	Sat 24/1/15	Mon 26/1/15 156
7 days	Tue 27/1/15	Tue 3/2/15 157
30 days	Wed 4/2/15	Fri 13/3/15 158
7 days	Sat 14/3/15	Sat 21/3/15 159
7 days	Mon 23/3/15	Mon 30/3/15 160
<b>20 days</b>	<b>Tue 10/2/15</b>	<b>Sat 7/3/15</b>
1 day	Tue 10/2/15	Tue 10/2/15
1 day	Sat 28/2/15	Sat 28/2/15
6 days	Wed 11/2/15	Tue 17/2/15 164
6 days	Mon 2/3/15	Sat 7/3/15 165
<b>91 days</b>	<b>Wed 28/1/15</b>	<b>Sat 16/5/15</b>
<b>27 days</b>	<b>Mon 9/2/15</b>	<b>Sat 14/3/15</b>
1 day	Mon 9/2/15	Mon 9/2/15
1 day	Tue 10/2/15	Tue 10/2/15 171
14 days	Wed 11/2/15	Mon 2/3/15 172
26 days	Tue 10/2/15	Sat 14/3/15 171
<b>91 days</b>	<b>Wed 28/1/15</b>	<b>Sat 16/5/15</b>
1 day	Wed 28/1/15	Wed 28/1/15
3 days	Thu 29/1/15	Sat 31/1/15 177
50 days	Mon 2/2/15	Fri 3/4/15 178
7 days	Sat 4/4/15	Sat 11/4/15 179
2 days	Mon 13/4/15	Tue 14/4/15 180
14 days	Wed 15/4/15	Thu 30/4/15 181
14 days	Fri 1/5/15	Sat 16/5/15 182

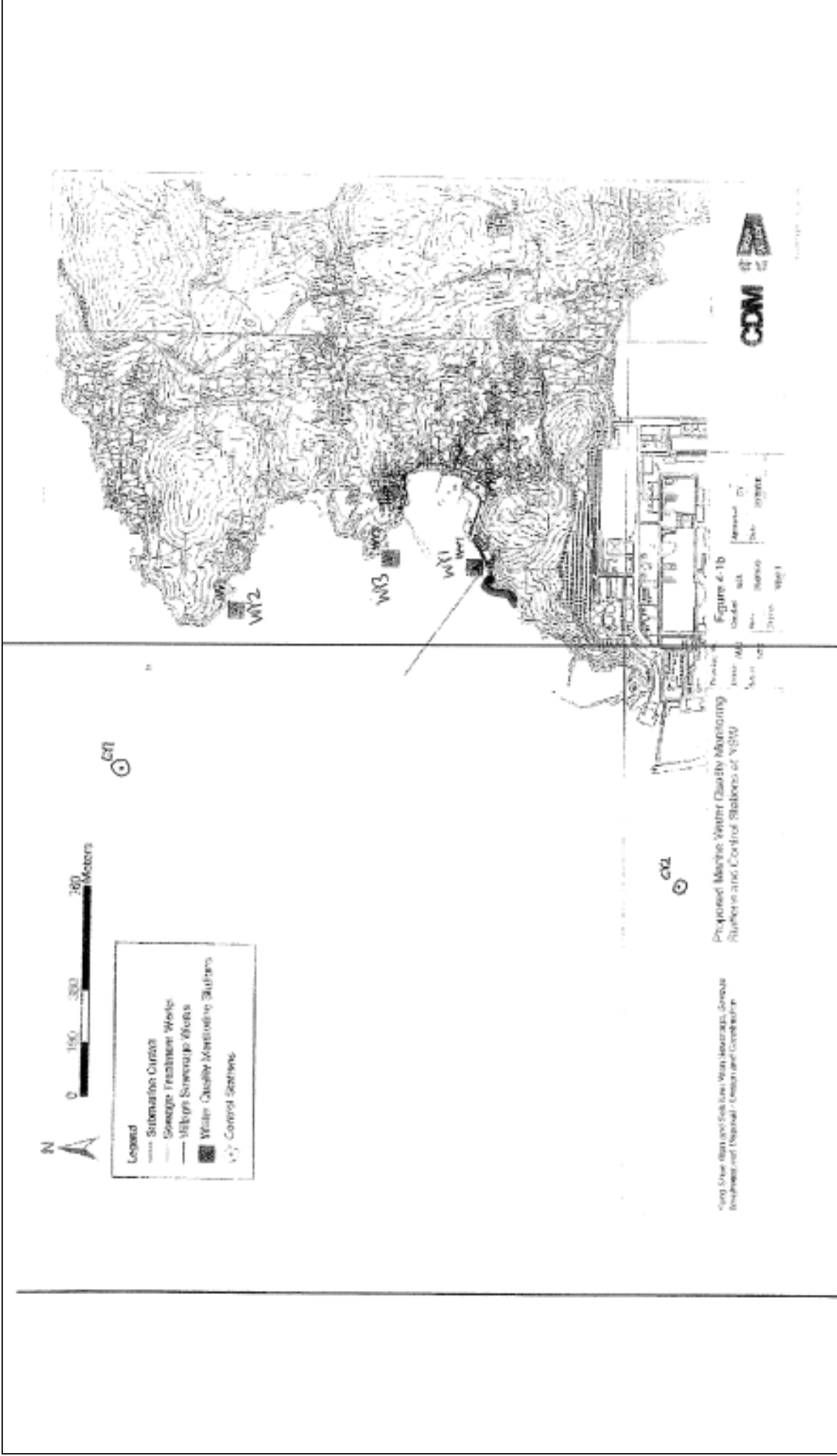




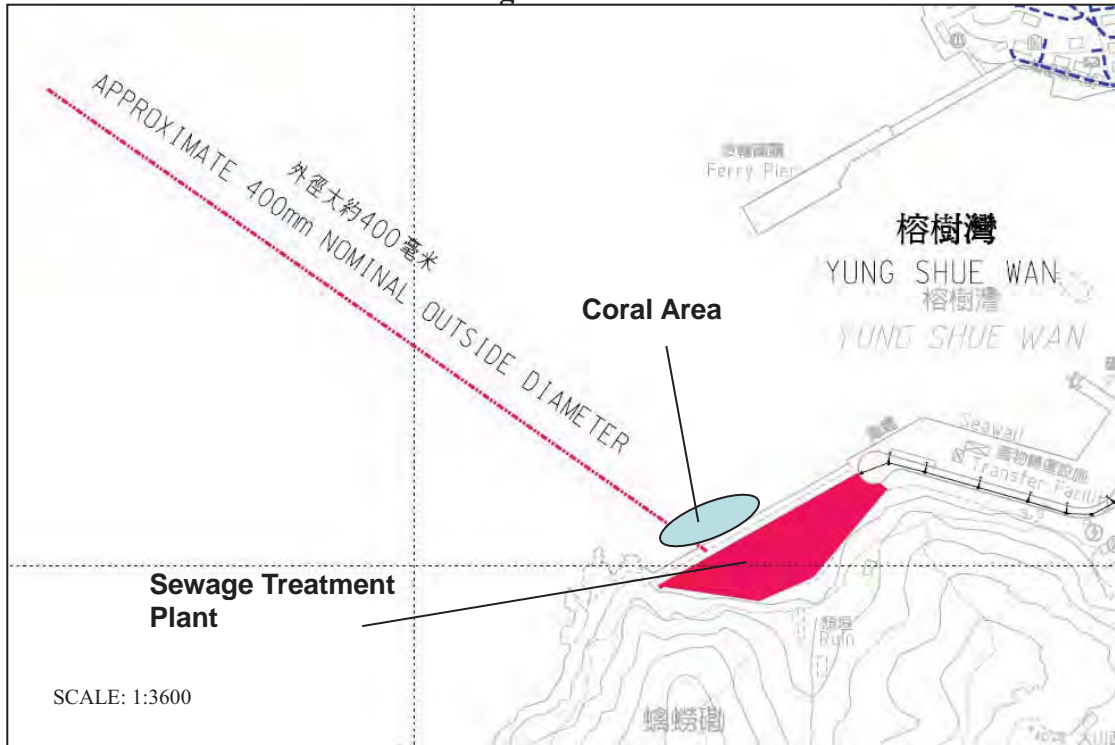
## **Appendix D**

### **Location of Monitoring Stations (Air Quality / Construction Noise / Water Quality / Dive Surveys of Coral)**

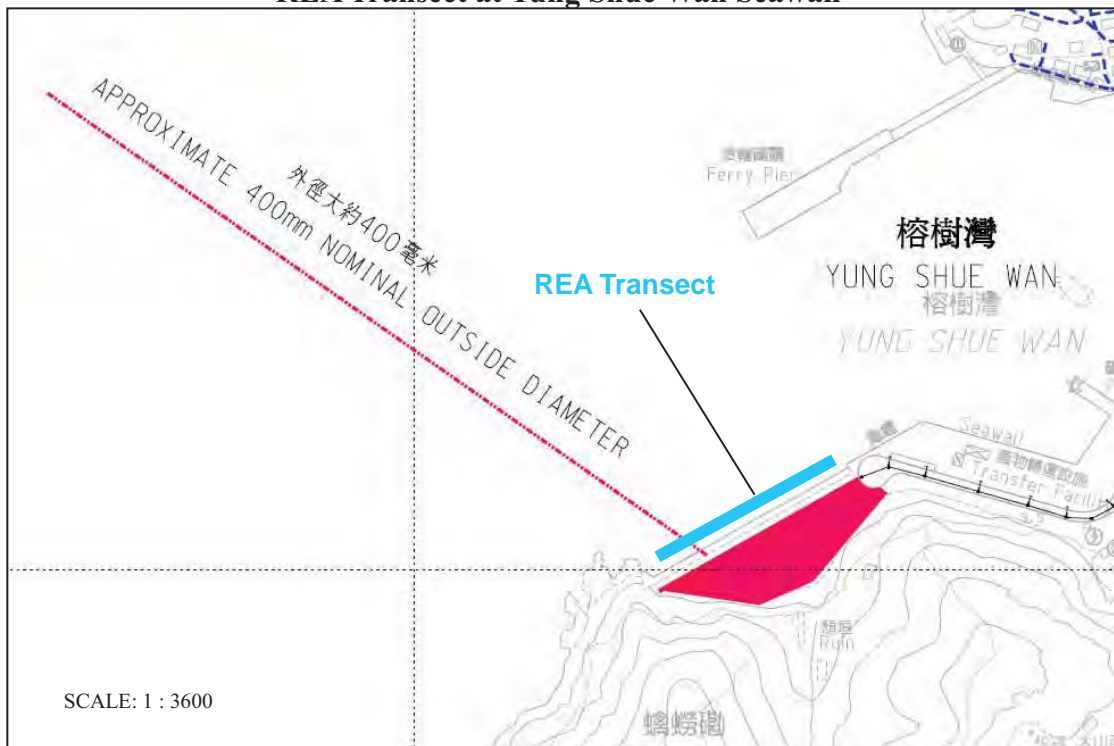




### Coral Area at Yung Shue Wan Seawall



### REA Transect at Yung Shue Wan Seawall





**Coral Area at Sham Wan**



**REA Transect at Sham Wan**



**Appendix E**

**Monitoring Equipments Calibration Certificate**





## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

### SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK1439899
CLIENT	: ACTION UNITED ENVIRO SERVICES	SUB-BATCH	: 1
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	DATE RECEIVED	: 28-NOV-2014
PROJECT	: ----	DATE OF ISSUE	: 5-DEC-2014
		NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

#### General Comments

- Sample(s) were received in an ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

#### Signatories

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories

Position

Richard Fung

General Manager

PR

This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Trading Name: **ALS Technichem (HK) Pty Ltd**

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong  
Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

A Campbell Brothers Limited Company

WORK ORDER : HK1439899  
SUB-BATCH : 1  
CLIENT : ACTION UNITED ENVIRO SERVICES  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1439899-001	S/N.: 23080	Equipments	28-NOV-2014	S/N.: 23080

# Equipment Calibration Record

## Equipment Calibrated:

Type: Laser Dust monitor  
 Manufacturer: TSI 8520  
 Serial No. 23080  
 Equipment Ref: EQ063  
 Work Order: \_\_\_\_\_

## Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)  
 Location & Location ID: Calibration Room  
 Equipment Ref: HVS 018  
 Last Calibration Date: 19 Aug 2014

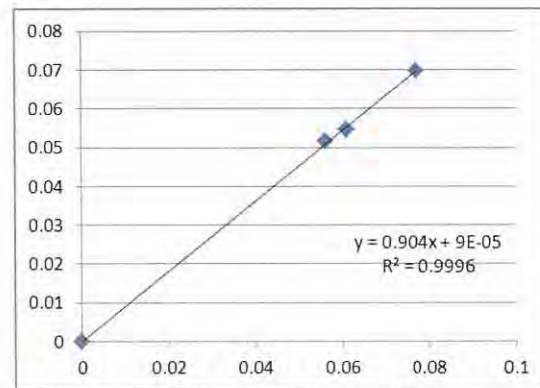
## Equipment Calibration Results:

Calibration Date: 16 October 2014

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Concentration in mg/m <sup>3</sup> (Calibrated Equipment)	Tolerance (mg/m <sup>3</sup> )
2hr57min	10:05 ~ 13:02	25.4	1017.9	0.070	0.077	+0.007
2hr31min	13:07 ~ 15:38	25.4	1017.9	0.052	0.056	+0.004
1hr57min	15:45 ~ 17:42	25.4	1017.9	0.055	0.061	+0.006

### Linear Regression of Y or X

Slope (factor): 0.9040  
 Correlation Coefficient 0.9996  
 Date of Issue 24 October 2014



\*Factor 0.9040 should be apply for TSP monitoring

Operator : Donald Kwok Signature : [Signature] Date : 24 October 2014

QC Reviewer : Ben Tam Signature : [Signature] Date : 24 October 2014



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Date of Calibration: 19-Aug-14  
 Location ID : Calibration Room Next Calibration Date: 19-Nov-14

### CONDITIONS

Sea Level Pressure (hPa)	1008.7	Corrected Pressure (mm Hg)	756.525
Temperature (°C)	27.4	Temperature (K)	300

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.00757
Model->	5025A	Qstd Intercept ->	-0.01628
Calibration Date->	7-Apr-14	Expiry Date->	7-Apr-15

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	3.7	3.7	7.4	1.355	58	57.64	
13	2.9	2.9	5.8	1.200	54	53.66	
10	2.2	2.2	4.4	1.046	50	49.69	
8	1.4	1.4	2.8	0.836	44	43.72	
5	0.9	0.9	1.8	0.672	38	37.76	

**Calculations :**

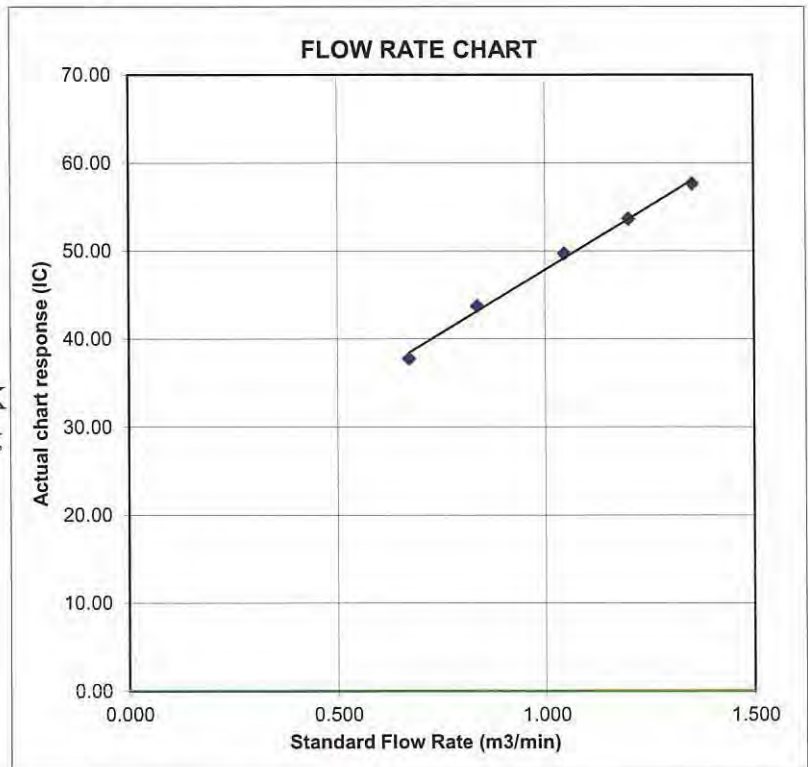
$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$   
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K)  
 Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure





## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

### SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK1439900
CLIENT	: ACTION UNITED ENVIRO SERVICES	SUB-BATCH	: 1
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	DATE RECEIVED	: 28-NOV-2014
PROJECT	: ----	DATE OF ISSUE	: 5-DEC-2014
		NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

### General Comments

- Sample(s) were received in an ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

### Signatories

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories

Position

Richard Fung

General Manager

MF

This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

WORK ORDER : HK1439900  
SUB-BATCH : 1  
CLIENT : ACTION UNITED ENVIRO SERVICES  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1439900-001	S/N.: 21060	Equipments	28-NOV-2014	S/N.: 21060



# Equipment Calibration Record

## Equipment Calibrated:

Type: Laser Dust monitor  
 Manufacturer: TSI 8520  
 Serial No. 21060  
 Equipment Ref: EQ021  
 Work Order: \_\_\_\_\_

## Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)  
 Location & Location ID: Calibration Room  
 Equipment Ref: HVS 018  
 Last Calibration Date: 19 Aug 2014

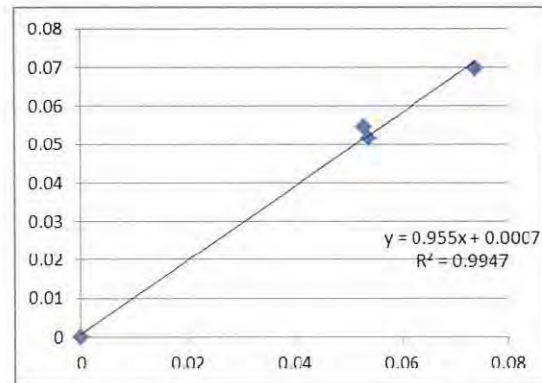
## Equipment Calibration Results:

Calibration Date: 16 October 2014

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Concentration in mg/m <sup>3</sup> (Calibrated Equipment)	Tolerance (mg/m <sup>3</sup> )
2hr57min	10:05 ~ 13:02	25.4	1017.9	0.070	0.074	+0.004
2hr31min	13:07 ~ 15:38	25.4	1017.9	0.052	0.054	+0.002
1hr57min	15:45 ~ 17:42	25.4	1017.9	0.055	0.054	+0.001

### Linear Regression of Y or X

Slope (factor): 0.9550  
 Correlation Coefficient 0.9947  
 Date of Issue 24 October 2014



\*Factor 0.9550 should be apply for TSP monitoring

Operator: Donald Kwok Signature: [Signature] Date: 24 October 2014

QC Reviewer: Ben Tam Signature: [Signature] Date: 24 October 2014

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Date of Calibration: 19-Aug-14  
 Location ID : Calibration Room Next Calibration Date: 19-Nov-14

### CONDITIONS

Sea Level Pressure (hPa)	1008.7	Corrected Pressure (mm Hg)	756.525
Temperature (°C)	27.4	Temperature (K)	300

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.00757
Model->	5025A	Qstd Intercept ->	-0.01628
Calibration Date->	7-Apr-14	Expiry Date->	7-Apr-15

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	3.7	3.7	7.4	1.355	58	57.64	28.7870	19.0744	0.9976
13	2.9	2.9	5.8	1.200	54	53.66			
10	2.2	2.2	4.4	1.046	50	49.69			
8	1.4	1.4	2.8	0.836	44	43.72			
5	0.9	0.9	1.8	0.672	38	37.76			

#### Calculations :

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K

Pstd = actual pressure during calibration ( mm Hg

#### For subsequent calculation of sampler flow:

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope

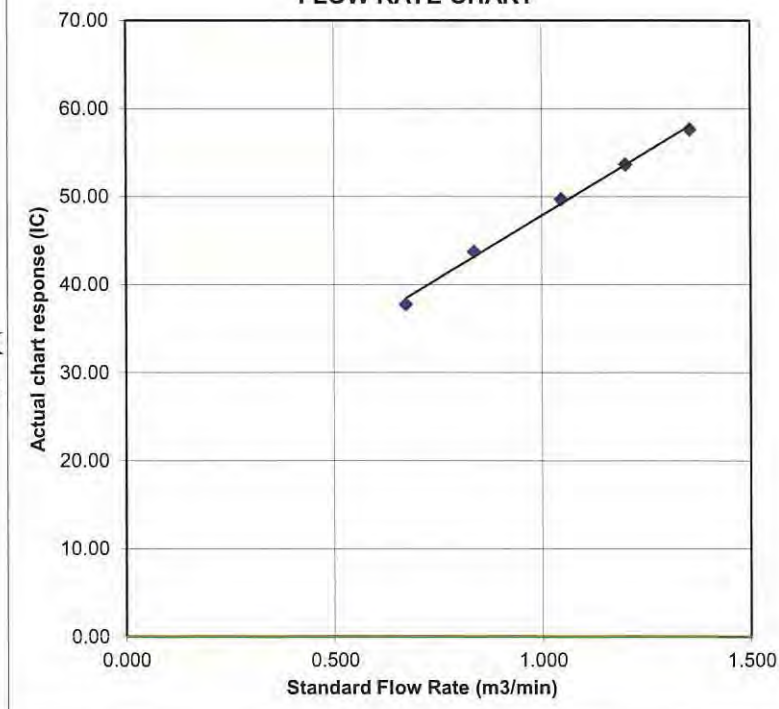
b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure

#### FLOW RATE CHART







## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

### SUB-CONTRACTING REPORT

CONTACT	: MR T W TAM	WORK ORDER	: HK1415927
CLIENT	: ACTION UNITED ENVIRO SERVICES	SUB-BATCH	: 1
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	DATE RECEIVED	: 24-MAR-2014
PROJECT	: ----	DATE OF ISSUE	: 23-MAY-2014
		NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

#### General Comments

- Sample(s) were received in an ambient condition.
- Calibration was analysed by Action United Enviro Services.
- Sample(s) analysed and reported on an as received basis.

#### Signatories

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Signatories

Position

Richard Fung  General Manager

This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

WORK ORDER : HK1415927  
SUB-BATCH : 1  
CLIENT : ACTION UNITED ENVIRO SERVICES  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1415927-001	S/N: 366418	AIR	22-MAY-2014	S/N: 366418

# Equipment Calibration Record

## Equipment Calibrated:

Type: Laser Dust monitor  
 Manufacturer: Sibata LD-3B  
 Serial No. 366418  
 Equipment Ref: EQ108  
 Job Order \_\_\_\_\_

## Standard Equipment:

Standard Equipment: Higher Volume Sampler  
 Location & Location ID: AUES office (calibration room)  
 Equipment Ref: HVS 018  
 Last Calibration Date: 6 January 2014

## Equipment Calibration Results:

Calibration Date: 24 & 25 March 2014

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
14hr43min	18:25 ~ 09:08	19.5	1019.4	0.020	8103	9.2
2hr30min	09:15 ~ 11:45	21.9	1015.5	0.025	1551	10.3
4hr09min	11:55 ~ 16:04	21.9	1015.5	0.031	3522	14.1

Sensitivity Adjustment Scale Setting (Before Calibration) 660 (CPM)

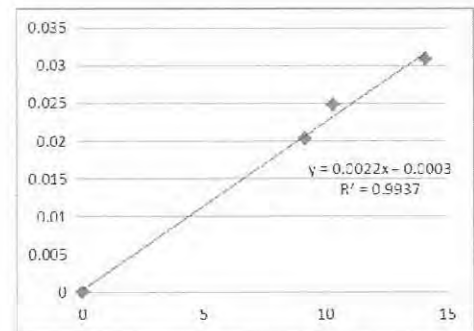
Sensitivity Adjustment Scale Setting (After Calibration) 661 (CPM)


## Linear Regression of Y or X


Slope (K-factor): 0.0022

Correlation Coefficient 0.9937

Validity of Calibration Record 28 March 2014



Operator : Tung Chi Sun Signature :  Date : 28 March 2014

QC Reviewer : Ben Tam Signature :  Date : 28 March 2014



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung      Date of Calibration: 6-Jan-14  
 Location ID : Calibration Room      Next Calibration Date: 6-Apr-14

### CONDITIONS

Sea Level Pressure (hPa)	1018	Corrected Pressure (mm Hg)	763.5
Temperature (°C)	18.5	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11662
Model->	5025A	Qstd Intercept ->	-0.01714
Calibration Date->	9-Apr-13	Expiry Date->	9-Apr-14

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	5.8	5.8	11.6	1.639	56	56.75	23.4751	17.5690	0.9966
13	4.6	4.6	9.2	1.460	50	50.67			
10	2.8	2.8	5.6	1.141	44	44.59			
8	1.6	1.6	3.2	0.865	38	38.51			
5	0.9	0.9	1.8	0.650	32	32.43			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K)

Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$$1/m((I) [\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

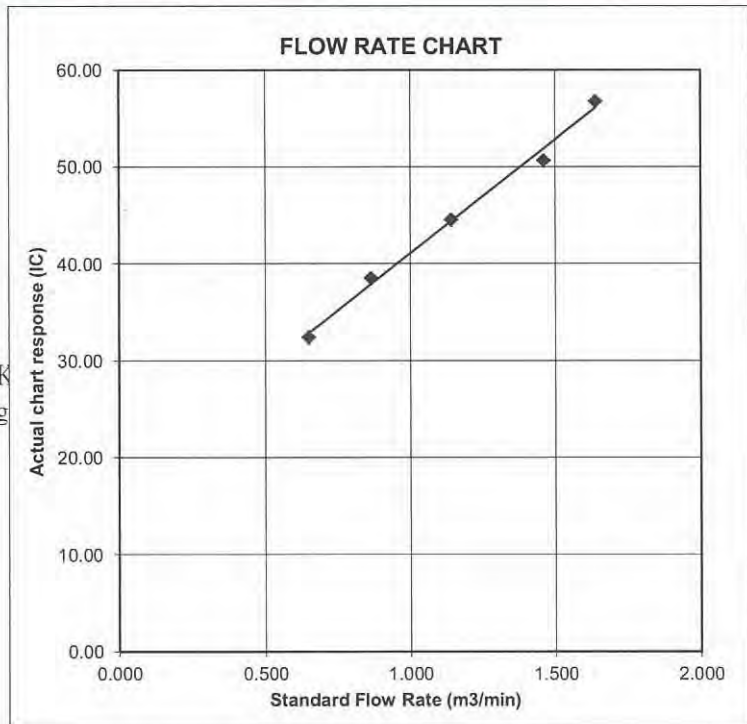
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure





## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

### SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK1500976
CLIENT	: ACTION UNITED ENVIRO SERVICES	SUB-BATCH	: 1
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	DATE RECEIVED	: 8-JAN-2015
PROJECT	: ----	DATE OF ISSUE	: 9-JAN-2015
		NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

#### General Comments

- Sample(s) were received in an ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

#### Signatories

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Signatories

Position

Richard Fung  General Manager

This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Trading Name: **ALS Technichem (HK) Pty Ltd**

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong  
Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

A Campbell Brothers Limited Company



WORK ORDER : HK1500976  
SUB-BATCH : 1  
CLIENT : ACTION UNITED ENVIRO SERVICES  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1500976-001	S/N: 2X6145	AIR	08-JAN-2015	S/N: 2X6145

# Equipment Calibration Record

## Equipment Calibrated:

Type: Laser Dust monitor  
 Manufacturer: Sibata LD-3B  
 Serial No. 2X6145  
 Equipment Ref: EQ 105  
 Job Order HK1500976

## Standard Equipment:

Standard Equipment: Higher Volume Sampler  
 Location & Location ID: AUES office (calibration room)  
 Equipment Ref: HVS 018  
 Last Calibration Date: 10 Nov 2014

## Equipment Calibration Results:

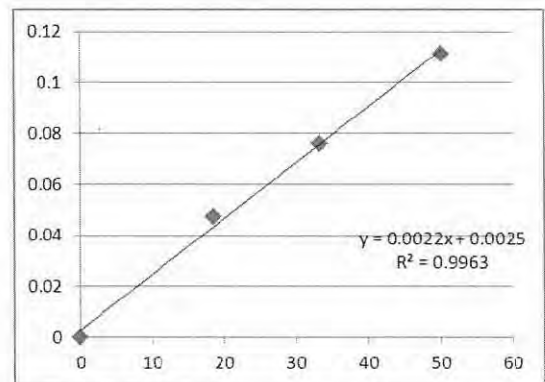
Calibration Date: 4 January 2015

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
1hr19min	10:00 ~ 11:19	17.3	1017.0	0.076	2637	33.3
2hr15min	11:25 ~ 13:40	17.3	1017.0	0.111	6771	50.2
2hr06min	15:40 ~ 17:46	17.3	1017.0	0.047	2331	18.5

Sensitivity Adjustment Scale Setting (Before Calibration) 593 (CPM)  
 Sensitivity Adjustment Scale Setting (After Calibration) 592 (CPM)

### Linear Regression of Y or X

Slope (K-factor): 0.0022  
 Correlation Coefficient 0.9963  
 Date of Issue 6 January 2015



Operator : Donald Kwok Signature : [Signature] Date : 6 January 2015

QC Reviewer : Ben Tam Signature : [Signature] Date : 6 January 2015

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung  
 Location ID : Calibration Room

Date of Calibration: 10-Nov-14  
 Next Calibration Date: 10-Feb-15

### CONDITIONS

Sea Level Pressure (hPa) 1017.3  
 Temperature (°C) 23.3

Corrected Pressure (mm Hg) 762.975  
 Temperature (K) 296

### CALIBRATION ORIFICE

Make-> TISCH  
 Model-> 5025A  
 Calibration Date-> 7-Apr-14

Qstd Slope -> 2.00757  
 Qstd Intercept -> -0.01628  
 Expiry Date-> 7-Apr-15

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	3.6	3.6	7.2	1.351	58	58.28	Slope = 33.8083 Intercept = 12.9642 Corr. coeff. = 0.9976
13	2.8	2.8	5.6	1.193	54	54.26	
10	2.2	2.2	4.4	1.058	48	48.23	
8	1.5	1.5	3.0	0.875	42	42.20	
5	0.9	0.9	1.8	0.680	36	36.17	

**Calculations :**

$$Q_{std} = 1/m[\text{Sqrt}(H_2O(P_a/P_{std})(T_{std}/T_a))-b]$$

$$IC = I[\text{Sqrt}(P_a/P_{std})(T_{std}/T_a)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K

Pstd = actual pressure during calibration ( mm Hg

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/T_{av})(P_{av}/760)]-b)$$

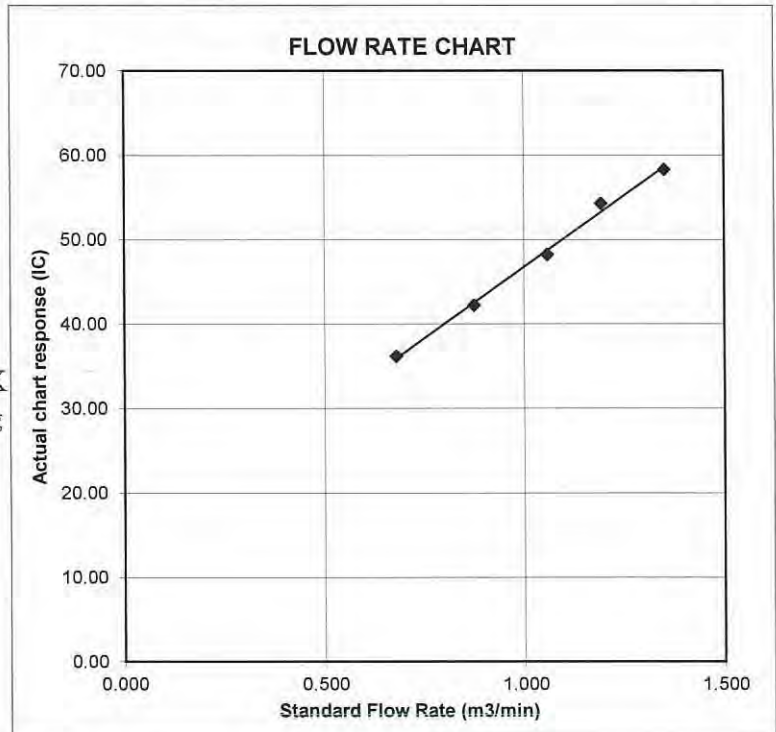
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



**CALIBRATION CERTIFICATE**

Date: May 30, 2014

Equipment Name	:	Laser Dust Monitor, Model LD-3B (EQ116)
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	456659
Sensitivity	:	0.001 mg/m <sup>3</sup>
Sensitivity Adjustment	:	727 CPM
Scale Setting	:	May 24, 2014

We hereby certify that the avobe mentioned instrmt has been calibrated satisfactory.

Sincerely

**SIBATA SCIENTIFIC TECHNOLOGY LTD.**

Kentaro Togo  
Overseas Sales Division





## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

### SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK1441936
CLIENT	: ACTION UNITED ENVIRO SERVICES	SUB-BATCH	: 1
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	DATE RECEIVED	: 19-DEC-2014
		DATE OF ISSUE	: 30-DEC-2014
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

### General Comments

- Sample(s) were received in an ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

### Signatories

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Signatories

Position

Richard Fung

General Manager

This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Trading Name: **ALS Technichem (HK) Pty Ltd**

11/F, Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong  
Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

A Campbell Brothers Limited Company

WORK ORDER : HK1441936  
SUB-BATCH : 1  
CLIENT : ACTION UNITED ENVIRO SERVICES  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1441936-001	S/N: 3Y6503	AIR	19-DEC-2014	S/N: 3Y6503



# Equipment Calibration Record

## Equipment Calibrated:

Type: Laser Dust monitor  
Manufacturer: Sibata LD-3B  
Serial No. 3Y6503  
Equipment Ref: EQ112  
Job Order HK1441936

## Standard Equipment:

Standard Equipment: Higher Volume Sampler  
Location & Location ID: AUES office (calibration room)  
Equipment Ref: HVS 018  
Last Calibration Date: 10 Nov 2014

## Equipment Calibration Results:

Calibration Date: 14 December 2014

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr03min	11:00 ~ 13:03	16.0	1023.5	0.042	2411	19.6
2hr37min	13:10 ~ 15:47	16.0	1023.5	0.037	2568	16.3
1hr33min	15:50 ~ 17:23	16.0	1023.5	0.032	1441	15.5

Sensitivity Adjustment Scale Setting (Before Calibration) 659 (CPM)

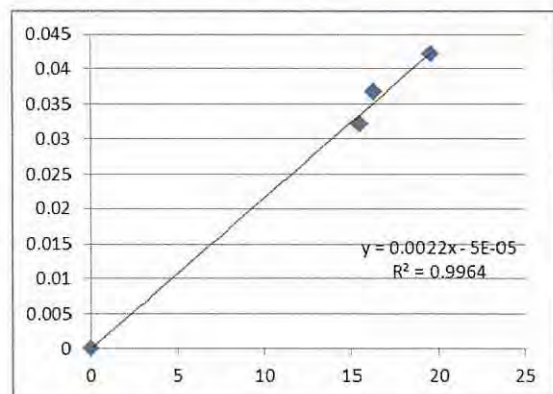
Sensitivity Adjustment Scale Setting (After Calibration) 661 (CPM)

### Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9964

Date of Issue 18 December 2014



Operator: Donald Kwok Signature: [Signature] Date: 18 December 2014

QC Reviewer: Ben Tam Signature: [Signature] Date: 18 December 2014

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration: 10-Nov-14
Location ID :	Calibration Room	Next Calibration Date: 10-Feb-15

### CONDITIONS

Sea Level Pressure (hPa)	1017.3	Corrected Pressure (mm Hg)	762.975
Temperature (°C)	23.3	Temperature (K)	296

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.00757
Model->	5025A	Qstd Intercept ->	-0.01628
Calibration Date->	7-Apr-14	Expiry Date->	7-Apr-15

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	3.6	3.6	7.2	1.351	58	58.28	Slope = 33.8083 Intercept = 12.9642 Corr. coeff. = 0.9976		
13	2.8	2.8	5.6	1.193	54	54.26			
10	2.2	2.2	4.4	1.058	48	48.23			
8	1.5	1.5	3.0	0.875	42	42.20			
5	0.9	0.9	1.8	0.680	36	36.17			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K

Pstd = actual pressure during calibration ( mm Hg

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

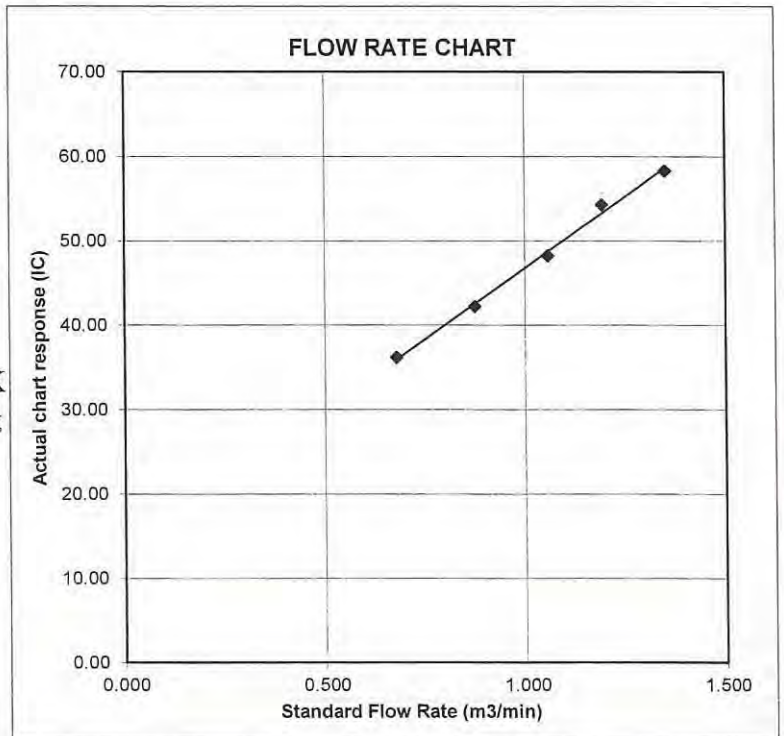
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure







輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C142547

證書編號

ITEM TESTED / 送檢項目 ( Job No. / 序引編號 : IC14-0853 )

Date of Receipt / 收件日期 : 14 April 2014

Description / 儀器名稱 : Sound Level Meter (EQ067)

Manufacturer / 製造商 : Rion

Model No. / 型號 : NL-31

Serial No. / 編號 : 00410221

Supplied By / 委託者 : Action-United Environmental Services and Consulting  
Unit A, 20/F., Gold King Industrial Building,  
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 :  $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 :  $(55 \pm 20)\%$

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 26 April 2014

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.


All results are within manufacturer's specification.

The results are detailed in the subsequent page(s).

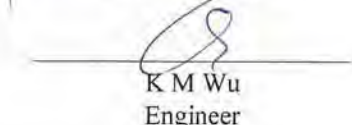
The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By :  
測試

  
K C Lee  
Project Engineer

Certified By :  
核證

  
K M Wu  
Engineer

Date of Issue : 29 April 2014  
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Sun Creation Engineering Limited - Calibration & Testing Laboratory

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# Certificate of Calibration

## 校正證書

Certificate No. : C142547

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C140016
CL281	Multifunction Acoustic Calibrator	DC130171

- Test procedure : MA101N.

- Results :

### 6.1 Sound Pressure Level

#### 6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading	IEC 61672 Class 1 Spec.
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	(dB)	(dB)
30 - 120	L <sub>A</sub>	A	Fast	94.00	1	93.8	± 1.1

#### 6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	(dB)
30 - 120	L <sub>A</sub>	A	Fast	94.00	1	93.8 (Ref.)
				104.00		103.8
				114.00		113.9

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

### 6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading	IEC 61672 Class 1 Spec.
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	(dB)	(dB)
30 - 120	L <sub>A</sub>	A	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.3

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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# Certificate of Calibration

## 校正證書

Certificate No. : C142547

證書編號

### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L <sub>A</sub>	A	Fast	94.00	63 Hz	67.6	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.5	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.1	+1.2 ± 1.6
					4 kHz	94.9	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

#### 6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L <sub>C</sub>	C	Fast	94.00	63 Hz	92.9	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.7	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					12.5 kHz	88.0	-6.2 (+3.0 ; -6.0)

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輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

## 校正證書

Certificate No. : C142547

證書編號

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 319734

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

### Note :

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

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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# Certificate of Calibration

## 校正證書

Certificate No. : C142870  
證書編號

**ITEM TESTED / 送檢項目** ( Job No. / 序引編號 : IC14-0853 )      **Date of Receipt / 收件日期** : 8 May 2014

**Description / 儀器名稱** : Acoustical Calibrator (EQ082)

**Manufacturer / 製造商** : Brüel & Kjær

**Model No. / 型號** : 4231

**Serial No. / 編號** : 2713428

**Supplied By / 委託者** : Action-United Environmental Services and Consulting  
Unit A, 20/F., Gold King Industrial Building,  
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

### TEST CONDITIONS / 測試條件

**Temperature / 溫度** : (23 ± 2)°C      **Relative Humidity / 相對濕度** : (55 ± 20)%

**Line Voltage / 電壓** : ---

### TEST SPECIFICATIONS / 測試規範

Calibration check

**DATE OF TEST / 測試日期** : 13 May 2014

### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.  
All results are within manufacturer's specification.  
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

**Tested By / 測試** :   
K C Lee  
Project Engineer

**Certified By / 核證** :   
K M Wu  
Engineer

**Date of Issue / 簽發日期** : 15 May 2014

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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# Certificate of Calibration

## 校正證書

Certificate No. : C142870  
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C133632
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C141558

- Test procedure : MA100N.

- Results :

### 5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.1		

### 5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

#### Note :

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

## **Appendix F**

### **Event and Action Plan**

## Air Quality

EVENT	ACTION ET	IC(E)	ER	CONTRACTOR
<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 findings;</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 findings;</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 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>



## Water Quality

EVENT	ACTION				CONTRACTOR
	ET	IC(E)	ER	ER	
<b>ACTION LEVEL</b>					
1. Exceedance for one sampling day	<ol style="list-style-type: none"> <li>Repeat in-situ measurement on the next day of exceedance to confirm findings;</li> <li>Identify source(s) of impact;</li> <li>Inform ICE, Contractor, ER, EPD and AFCD; and</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods.</li> </ol>	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET and Contractor's working methods</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of non-compliance in writing; and Notify Contractor</li> </ol>	<ol style="list-style-type: none"> <li>1. Information the ER and confirm notification of the non-compliance in writing;</li> <li>2. Rectify unacceptable practice; and</li> <li>3. Amend working methods if appropriate</li> </ol>	
2. Exceedance for two or more consecutive sampling days	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Inform ICE, Contractor, ER, EPD and AFCD;</li> <li>Discuss mitigation measures with IC(E), RE and Contractor;</li> <li>Ensure well implementation of mitigation measures; and</li> <li>Increase the monitoring frequency to daily until no exceedance of Action Level</li> </ol>	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Discuss with ET and Contractor on possible remedial actions;</li> <li>Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; and</li> <li>Supervise the implementation of mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IC(E) on the proposed mitigation measures;</li> <li>2. Ensure well implementation of mitigation measures; and</li> <li>3. Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Same as the above;</li> <li>2. Check all plant and equipment and consider changes of working methods;</li> <li>3. Submit proposal of additional mitigation measures to ER within 3 working days of notification and discuss with ET, IC(E), and ER; and</li> <li>4. Implement the agreed mitigation measures</li> </ol>	
<b>LIMIT LEVEL</b>					
1. Exceedance for one sampling day	<ol style="list-style-type: none"> <li>Repeat in-situ measurement on the next day of exceedance to confirm findings;</li> <li>Identify source(s) of impact;</li> <li>Inform ICE, Contractor, ER, EPD and AFCD;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods; and</li> <li>Discuss mitigation measures with IC(E), RE and Contractor</li> </ol>	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET and Contractor's working method</li> <li>Discuss with ER and Contractor on possible remedial actions; and</li> <li>Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification failure in writing; and</li> <li>2. Discuss with IC(E), ET and Contractor on the proposed mitigation measures; and</li> <li>3. Request Contractor to review the working methods</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER and confirm notification of the failure in writing;</li> <li>2. Rectify unacceptable practice;</li> <li>3. Check all plant and equipment and consider changes of working methods; and</li> <li>4. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET and ER</li> </ol>	
2. Exceedance for two or more consecutive sampling days	<ol style="list-style-type: none"> <li>Same as the above;</li> <li>Ensure mitigation measures are implemented; and</li> <li>Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days</li> </ol>	<ol style="list-style-type: none"> <li>1. Same as the above; and</li> <li>2. Supervise the Implementation of mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Same as the above;</li> <li>2. Ensure well implementation of mitigation measures</li> <li>3. Make agreement on the mitigation measures to be implemented; and</li> <li>4. Consider and instruct, if necessary, the Contractor to stop down or to stop all or part of the construction activities until no exceedance of limit level</li> </ol>	<ol style="list-style-type: none"> <li>1. Same as the above;</li> <li>2. Take immediate action to avoid further exceedance;</li> <li>3. Implement the agreed mitigation measures;</li> <li>4. Resubmit proposals of mitigation measures if problem still not under control; and</li> <li>5. As directed by the Engineer, to slow down or to stop all or part of the construction activities until to no exceedance of Limit Level.</li> </ol>	

## Coral Monitoring

EVENT	ACTION	CONTRACTOR	ER/ IC(E)
<p>Action Level being exceeded</p>	<p>Inform contractor, AFCD and EPD immediately;</p> <p>Discuss mitigation measure with ER/IC(E) and Contractor;</p> <p>Ensure mitigation measures are implemented.</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Propose mitigation measure to ER/IC(E) within 1 working day and discuss with Et and ER/IC(E);</p> <p>Ensure mitigation measures are implemented.</p>	<p>Inform contractor, Review water quality monitoring data;</p> <p>Determine whether water quality monitoring data shows effects attributable to the backfilling works;</p> <p>If water quality monitoring data indicates effects attributable to backfilling works, then make agreement on mitigation measures to be implemented;</p> <p>If water quality monitoring data indicates no effects attributable to backfilling works then Action Level is not triggered;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p>
<p>Limit Level</p>	<p>Inform contractor, AFCD and EPD immediately;</p> <p>Discuss mitigation measure with ER/IC(E) and Contractor;</p> <p>Ensure mitigation measures are implemented.</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Suspend backfilling operations;</p> <p>Propose mitigation measure to ER/IC(E) within 3 working days and discuss with Et and ER/IC(E);</p> <p>Implement the agreed mitigation measures.</p>	<p>Inform contractor to suspend backfilling operations;</p> <p>Make agreement on the mitigation measures to be implemented;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p>

## **Appendix G**

### **Impact Monitoring Schedule**

### Impact Monitoring Schedule for the Reporting Period

Date		Air Quality		NOISE	WATER QUALITY
		1-hour TSP	24-hour TSP	Leq (30min)	
THU	1-JAN-15				
FRI	2-JAN-15		✓		
SAT	3-JAN-15				
SUN	4-JAN-15				
MON	5-JAN-15	✓		✓	
TUE	6-JAN-15				
WED	7-JAN-15				
THU	8-JAN-15		✓		
FRI	9-JAN-15				
SAT	10-JAN-15	✓			
SUN	11-JAN-15				
MON	12-JAN-15				
TUE	13-JAN-15				
WED	14-JAN-15		✓		
THU	15-JAN-15				
FRI	16-JAN-15	✓		✓	
SAT	17-JAN-15				
SUN	18-JAN-15				
MON	19-JAN-15				
TUE	20-JAN-15		✓		
WED	21-JAN-15				
THU	22-JAN-15	✓		✓	
FRI	23-JAN-15				
SAT	24-JAN-15				
SUN	25-JAN-15				
MON	26-JAN-15		✓		
TUE	27-JAN-15				
WED	28-JAN-15	✓		✓	
THU	29-JAN-15				
FRI	30-JAN-15				
SAT	31-JAN-15		✓		

✓	Monitoring Day
	Sunday or Public Holiday

## **Appendix H**

### **Monitoring Data Sheet**



## **24-hour TSP Monitoring Data Sheet**

### 24-hour TSP Monitoring Results

Monitoring Location : AC02b															
DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (oC)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST 24-hour TSP IN AIR (ug/m <sup>3</sup> )
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
2-Jan-15	27588	8653.53	8677.55	1441.20	37	38	37.5	17.1	1020.3	1.03	1480	2.7509	2.9521	0.2012	136
8-Jan-15	27607	8677.55	8701.08	1411.80	37	38	37.5	16.8	1020.5	1.03	1451	2.7499	2.8531	0.1032	71
14-Jan-15	208923	8701.08	8725.67	1475.40	38	39	38.5	16.2	1020.3	1.06	1569	2.7581	2.7909	0.0328	21
20-Jan-15	208935	8725.67	8749.49	1429.20	38	39	38.5	16.3	1019.5	1.06	1519	2.7654	2.8987	0.1333	88
26-Jan-15	27627	8749.49	8773.27	1426.80	40	41	40.5	15.3	1020.8	1.13	1619	2.8136	2.9011	0.0875	54
31-Jan-15	27649	8773.27	8797.52	1455.00	40	41	40.5	16.2	1020.2	1.13	1647	2.7915	2.8806	0.0891	54

Action Level: 161µg/m<sup>3</sup>  
Limit Level: 260µg/m<sup>3</sup>

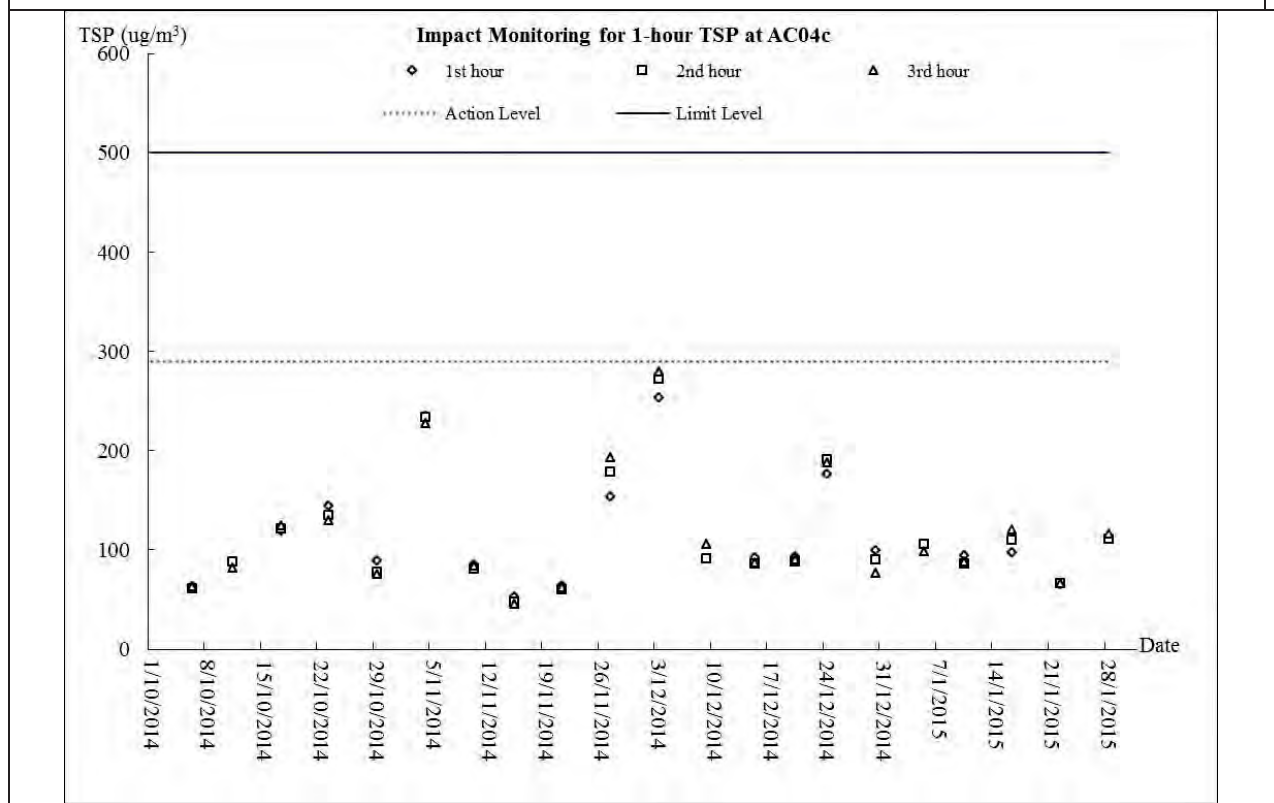
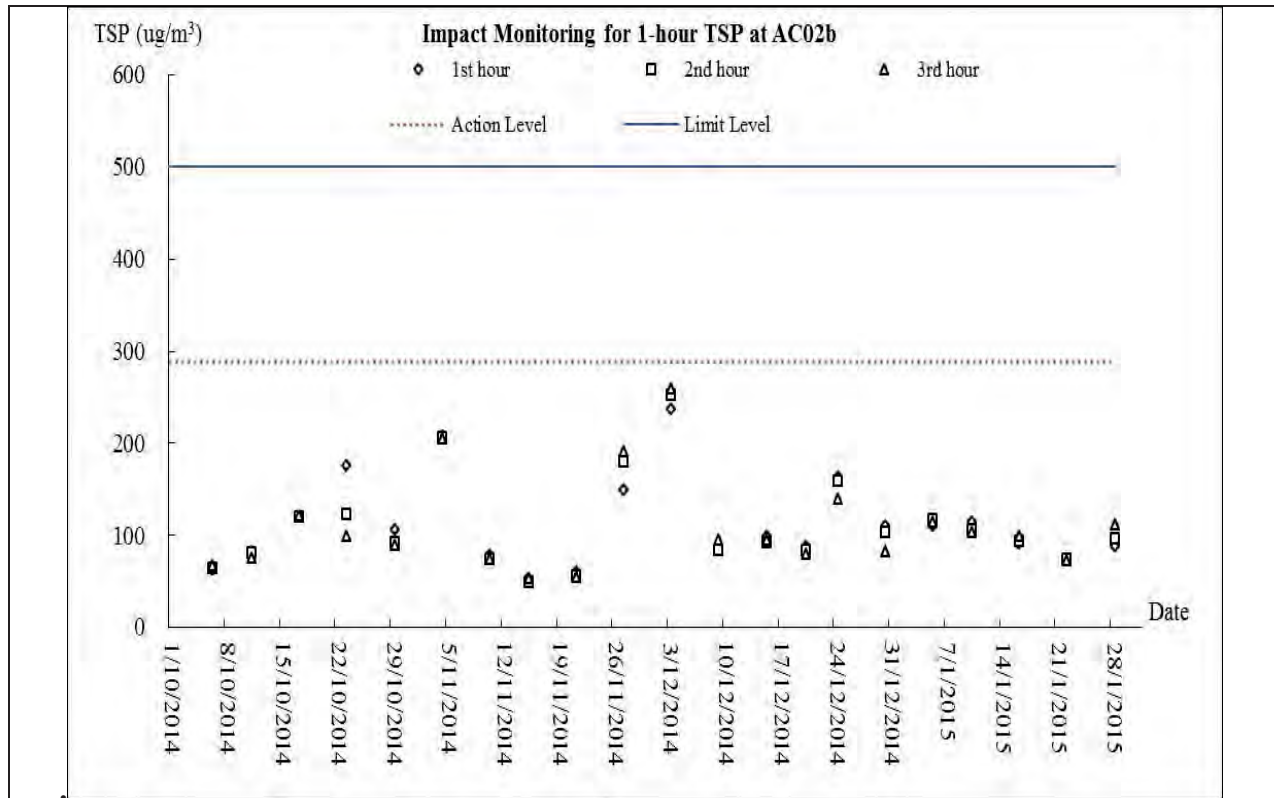
Monitoring Location : AC04c															
DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (oC)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST 24-hour TSP IN AIR (ug/m <sup>3</sup> )
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
2-Jan-15	27589	14415.1	14438.78	1420.80	40	41	40.5	17.1	1020.3	1.28	1818	2.7499	2.9622	0.2123	117
8-Jan-15	27608	14438.78	14462.52	1424.40	40	41	40.5	16.8	1020.5	1.28	1824	2.7419	2.8707	0.1288	71
14-Jan-15	208924	14462.52	14486.28	1425.60	41	42	41.5	16.2	1020.3	1.31	1867	2.7542	2.7966	0.0424	23
20-Jan-15	208934	14486.28	14510.05	1426.20	41	42	41.5	16.3	1019.5	1.31	1867	2.7539	2.9234	0.1695	91
26-Jan-15	27628	14510.05	14533.82	1426.20	40	41	40.5	15.3	1020.8	1.28	1831	2.8302	3.0169	0.1867	102
31-Jan-15	27648	14533.82	14557.54	1423.20	40	41	40.5	16.2	1020.2	1.28	1824	2.7986	2.9203	0.1217	67

Action Level: 176µg/m<sup>3</sup>  
Limit Level: 260µg/m<sup>3</sup>

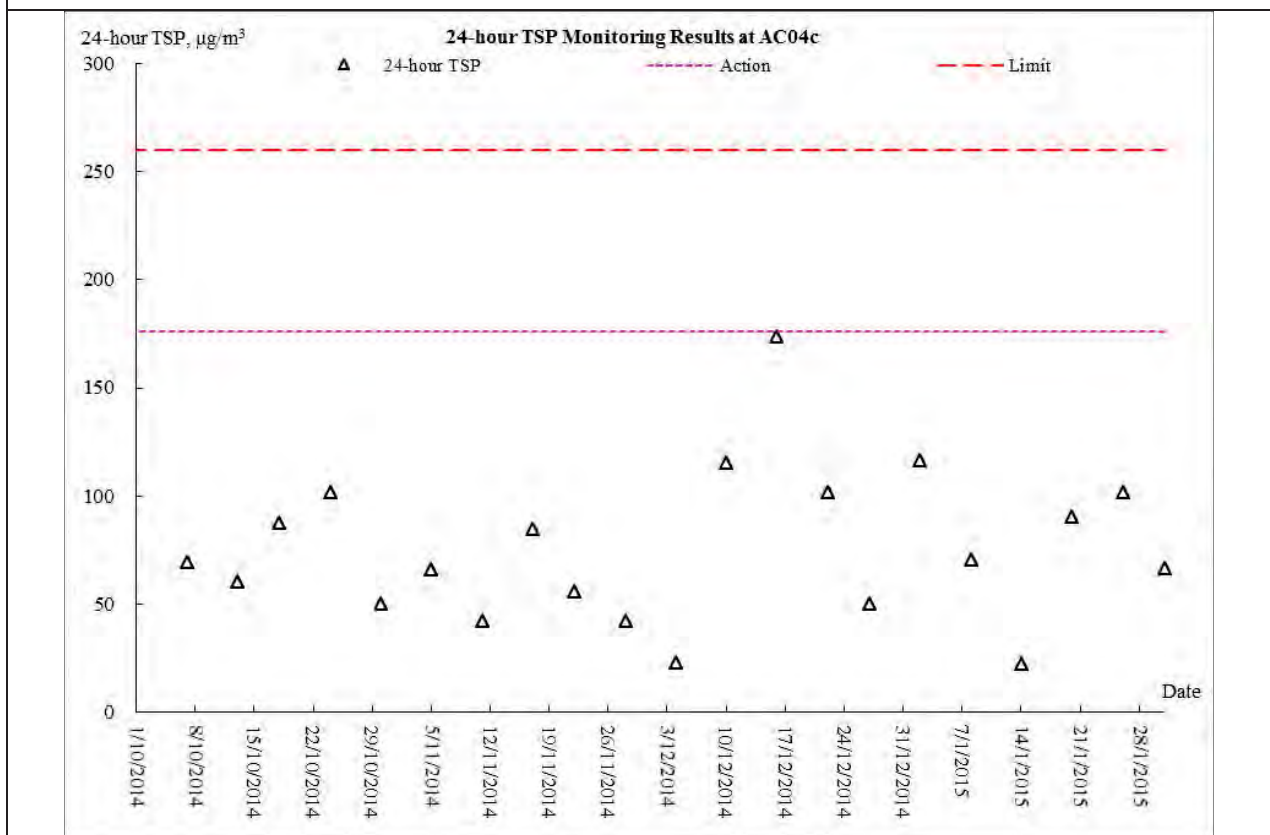
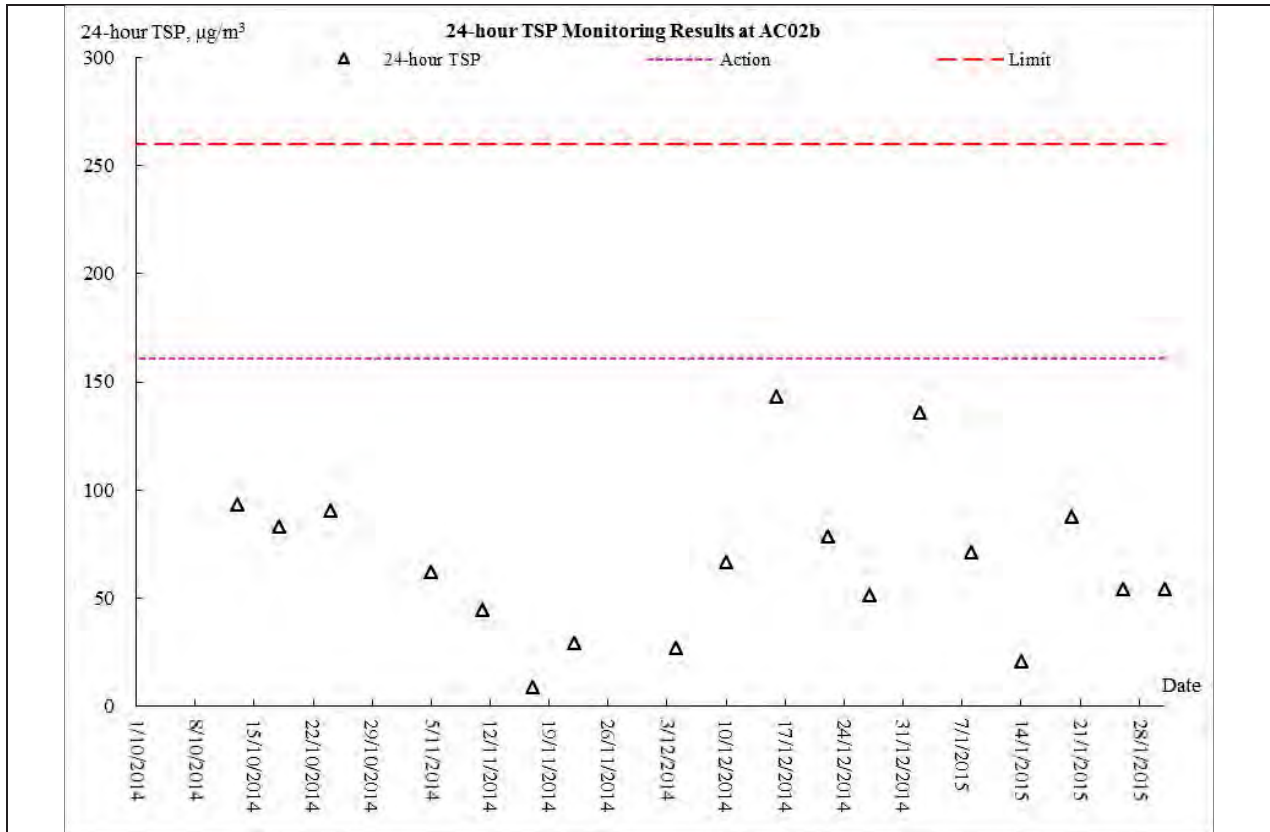
# **Appendix I**

## **Graphical Plots of Monitoring Results**

### 1-hour TSP Monitoring

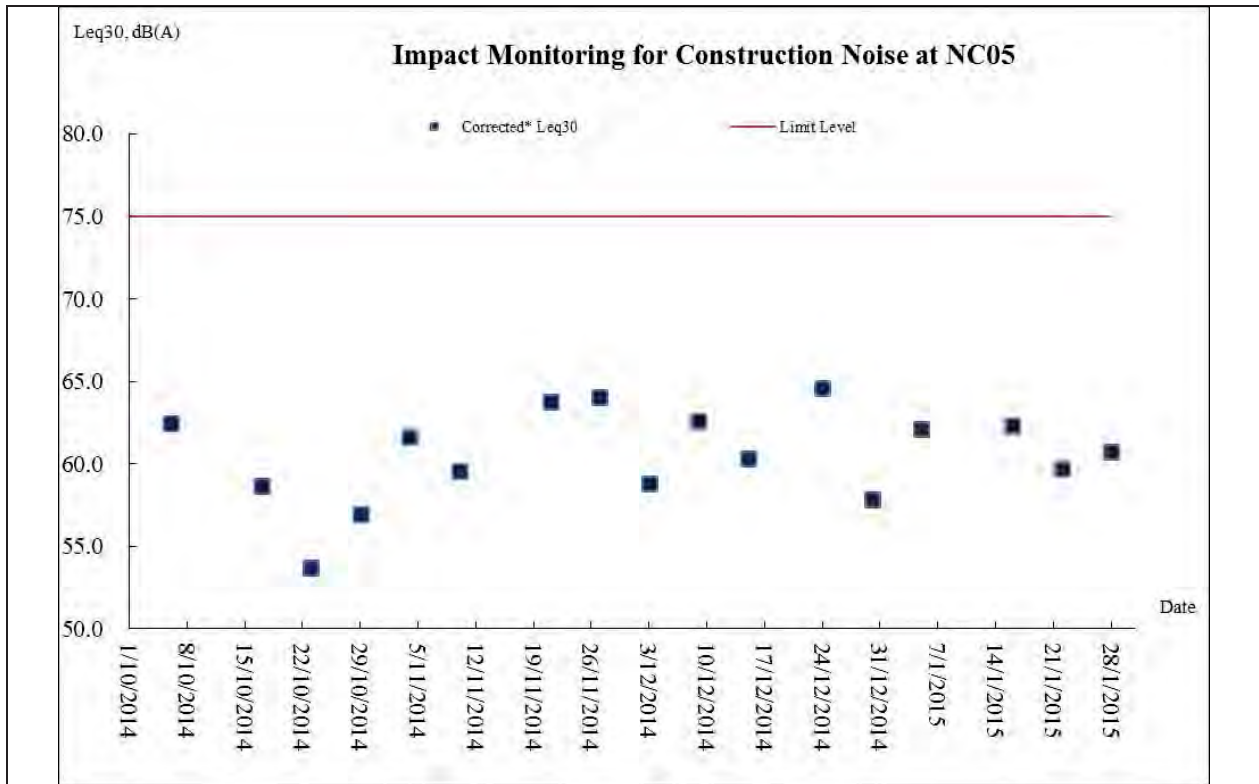


### 24-hour TSP Monitoring





### Noise Monitoring



## **Appendix J**

### **Meteorological Information**

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

Date		Weather
1-Jan-15	Thu	Some haze. Cloudy and significantly cooler overnight. Moderate to fresh north to northeasterly winds.
2-Jan-15	Fri	Some haze. Cloudy and significantly cooler overnight. Moderate to fresh north to northeasterly winds.
3-Jan-15	Sat	Fine and dry. Moderate northeasterly winds, fresh at times.
4-Jan-15	Sun	Mainly fine and dry. Moderate east to northeasterly winds, fresh offshore.
5-Jan-15	Mon	Some haze. Cloudy and significantly cooler overnight. Moderate to fresh north to northeasterly winds.
6-Jan-15	Tue	Some haze. Cloudy and significantly cooler overnight. Moderate to fresh north to northeasterly winds.
7-Jan-15	Wed	Some haze. Cloudy and significantly cooler overnight. Moderate to fresh north to northeasterly winds.
8-Jan-15	Thu	Fine and dry. Moderate northeasterly winds, fresh at times.
9-Jan-15	Fri	Mainly fine and dry. Moderate east to northeasterly winds, fresh offshore.
10-Jan-15	Sat	Mainly fine and dry. Moderate east to northeasterly winds, fresh offshore.
11-Jan-15	Sun	Overcast with occasional rain. Fresh north to northeasterly winds.
12-Jan-15	Mon	Overcast with occasional rain. Fresh north to northeasterly winds.
13-Jan-15	Tue	One or two light rain patches at first. It will be cold. Moderate north to northeasterly winds, fresh at first.
14-Jan-15	Wed	Fine and dry. Moderate northeasterly winds.
15-Jan-15	Thu	Fine and dry. Moderate northeasterly winds.
16-Jan-15	Fri	Fine and dry. Moderate northeasterly winds.
17-Jan-15	Sat	Mainly fine. Moderate to fresh easterly winds.
18-Jan-15	Sun	Mainly fine. Moderate to fresh easterly winds.
19-Jan-15	Mon	Fine. Very dry in the afternoon. Moderate easterly to northeasterly winds, occasionally fresh later.
20-Jan-15	Tue	Sunny periods in the afternoon. Cloudy tonight. Fresh easterly winds.
21-Jan-15	Wed	Mainly fine. Moderate to fresh easterly winds.
22-Jan-15	Thu	Fine and dry. Moderate northeasterly winds.
23-Jan-15	Fri	Mainly fine. Moderate to fresh easterly winds.
24-Jan-15	Sat	Mainly fine. Moderate to fresh easterly winds.
25-Jan-15	Sun	Fine. Very dry in the afternoon. Moderate easterly to northeasterly winds, occasionally fresh later.
26-Jan-15	Mon	Sunny periods in the afternoon. Cloudy tonight. Fresh easterly winds.
27-Jan-15	Tue	Mainly fine. Moderate to fresh easterly winds.
28-Jan-15	Wed	Sunny periods in the afternoon. Cloudy tonight. Fresh easterly winds.
29-Jan-15	Thu	Mainly fine. Moderate to fresh easterly winds.
30-Jan-15	Fri	Mainly fine. Moderate to fresh easterly winds.
31-Jan-15	Sat	Mainly fine. Moderate to fresh easterly winds.

**Appendix K**  
**Monthly Summary Waste Flow Table**

## Monthly Summary Waste Flow Table for January 2015

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> )	YSW	SKW	(in '000m <sup>3</sup> )	YSW	SKW	(in '000m <sup>3</sup> )	YSW	SKW	(in '000m <sup>3</sup> )	YSW	SKW	(in '000kg)	YSW	SKW	(in '000kg)	YSW	SKW	(in '000kg)	YSW	SKW	(in tonne)	YSW	SKW	
<b>2015</b>	16.581	51.087	0.160	0.442	0.740	2.802	0.000	0.000	15.841	48.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	709.700	348.610		
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	5.020	3.950		
Feb																									
Mar																									
Apr																									
May																									
Jun																									
<b>Sub-total</b>	16.581	51.087	0.160	0.442	0.740	2.802	0.000	0.000	15.841	48.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	714.720	352.560		
Jul																									
Aug																									
Sep																									
Oct																									
Nov																									
Dec																									
<b>Total</b>	16.581	51.087	0.160	0.442	0.740	2.802	0.000	0.000	15.841	48.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	714.720	352.560		
	67.668		0.602		3.542		0.000	0.000	64.126		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1067.280			

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

YSW: Yung Shue Wan

SKW: Sok Kwu Wan



## **Appendix L**

### **Weekly Site Inspection Checklist**

Project: TCS/00512/09  
DC-2009-03: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan

Inspected by  
 ETL/ ET's Representative:  
 RE's Representative:  
 Contractor's Representative:  
 IEC's Representative:

Checklist No. TCS512A-6 January 2015  
Mr. Martin Li  
Mr. Daniel Chau  
Mr. M. K. Leung

Date: 6 January 2015

Time: 09:30

**PART A: GENERAL INFORMATION** Environmental Permit No.  EP- 282/2007

Weather:  Sunny  Fine  Cloudy  Rainy

Temperature:  °C

Humidity:  High  Moderate  Low

Wind:  Strong  Breeze  Light  Calm

Area Inspected  
 1 Yung Shue Wan

**PART B: SITE AUDIT**

Note:	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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.14 Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18 Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
1.22 Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.23 Is used bentonite recycled where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.25 No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26 Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27 Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>	
<b>Section 2: Air Quality</b>						
2.01 Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08 Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13 Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be removed from the 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"/>	
2.17 Is the road surface kept clear of loose material?	<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06 Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
3.07 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"/>	
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10 Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11 Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10 Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11 Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<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
<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
<b>Section 6: Others</b>							
6.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
6.02	Are the warning sign or larvicidal oil record shown clearly at the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Remarks**

Findings of Site Inspection (6 January 2015):

Follow up (6 January 2015):

No environmental issue was observed during the site inspection

Nil

\_\_\_\_\_  
 IEC's representative      RE's representative      ET's representative      EO's representative      Contractor's representative

( )      (Mr. Daniel Chau)      ( Mr. Martin Li )      (Mr. M. K. Leung )      ( )



Project: TCS/00512/09  
DC-2009-03: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan

Inspected by \_\_\_\_\_  
 ETL/ ET's Representative: Mr. Martin Li  
 RE's Representative: Mr. Daniel Chau  
 Contractor's Representative: Mr. M. K. Leung  
 IEC's Representative: \_\_\_\_\_

Checklist No. TCS512A-13 January 2015

Date: 13 January 2015

Time: 09:30

**PART A: GENERAL INFORMATION**

Environmental Permit No.

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

EP- 282/2007

**Area Inspected**

1 Yung Shue Wan

**PART B: SITE AUDIT**

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
<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18	Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
1.22 Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.23 Is used bentonite recycled where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.25 No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26 Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27 Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>	
<b>Section 2: Air Quality</b>						
2.01 Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08 Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13 Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be removed from the 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"/>	
2.17 Is the road surface kept clear of loose material?	<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06 Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
3.07 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"/>	
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10 Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11 Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10 Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11 Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Team – Weekly Site Inspection and Audit Checklist – Yung Shue Wan



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
<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 6: Others</b>							
6.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6.02	Are the warning sign or larvicidal oil record shown clearly at the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks

Findings of Site Inspection (13 January 2015):

Follow up (13 January 2015):

No environmental issue was observed during the site inspection

Nil

IEC's representative      RE's representative      ET's representative      EO's representative      Contractor's representative

( )      (Mr. Daniel Chau)      ( Mr. Martin Li )      (Mr. M.K. Leung )      ( )



<b>Project:</b> <u>TCS/00512/09</u> <u>DC-2009-03: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan</u>	<b>Inspected by</b> ETL/ ET's Representative: RE's Representative: Contractor's Representative: IEC's Representative:	<b>Checklist No.</b> <u>TCS512A-20 January 2015</u> Mr. Martin Li Mr. Daniel Chau Mr. M. K. Leung
<b>Date:</b> <u>20 January 2015</u>	<b>Time:</b> <u>09:30</u>	

<b>PART A: GENERAL INFORMATION</b> Weather: <input type="checkbox"/> Sunny <input checked="" type="checkbox"/> Fine <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy Temperature: <input type="text" value="15.9"/> °C Humidity: <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low Wind: <input type="checkbox"/> Strong <input type="checkbox"/> Breeze <input checked="" type="checkbox"/> Light <input type="checkbox"/> Calm	<b>Environmental Permit No.</b> <input checked="" type="checkbox"/> EP- 282/2007
<b>Area Inspected</b> 1 Yung Shue Wan	

**PART B: SITE AUDIT**

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
<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.14 Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18 Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



Note:	Not Obs.:	Yes	No	Follow Up	N/A	Photo/Remarks
	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable					
1.22	Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.28	License collector should be employed for handling the sewage of mobile toilet.	<input type="checkbox"/>	<input checked="" 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"/>	
<b>Section 2: Air Quality</b>						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" 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 checked="" 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"/>	
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"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must be removed from the 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"/>	
2.17	Is the road surface kept clear of loose material?	<input type="checkbox"/>	<input checked="" 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"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<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"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
3.07	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"/>	
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<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
<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 6: Others</b>							
6.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6.02	Are the warning sign or larvicidal oil record shown clearly at the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Remarks**

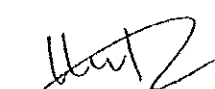
**Findings of Site Inspection (20 January 2015):**

No environmental issue was observed during the site inspection

**Follow up (20 January 2015):**

Nil

IEC's representative      RE's representative      ET's representative      EO's representative      Contractor's representative

( )      (Mr. Daniel Chau)      (  )      (Mr. M. K. Leung)      ( )

Project: TCS/00512/09  
DC-2009-03: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan

Inspected by \_\_\_\_\_  
 ETL/ ET's Representative: Mr. Martin Li  
 RE's Representative: Mr. Daniel Chau  
 Contractor's Representative: Mr. M. K. Leung  
 IEC's Representative: \_\_\_\_\_

Checklist No. TCS512A-27 January 2015

Date: 27 January 2015

Time: 09:30

**PART A: GENERAL INFORMATION**

Environmental Permit No.

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

EP- 282/2007

Area Inspected  
 1 Yung Shue Wan

**PART B: SITE AUDIT**

Note:	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable						
<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"/>	
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1.17 Are the vehicle and plant servicing areas paved and located within roofed areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18 Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



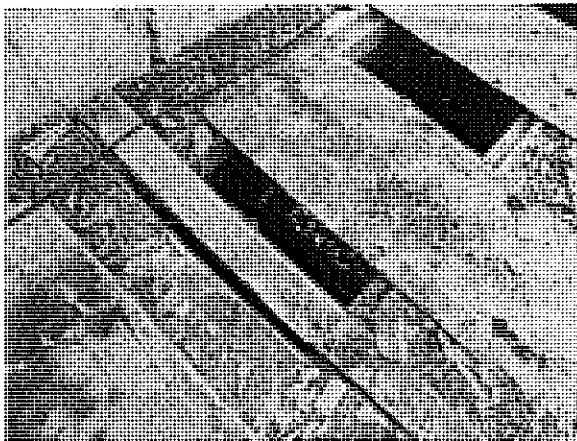
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1.25 No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26 Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27 Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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<b>Section 2: Air Quality</b>						
2.01 Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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2.04 Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08 Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13 Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be removed from the 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"/>	
2.17 Is the road surface kept clear of loose material?	<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06 Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 6: Others</b>						
6.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6.02 Are the warning sign or larvicidal oil record shown clearly at the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

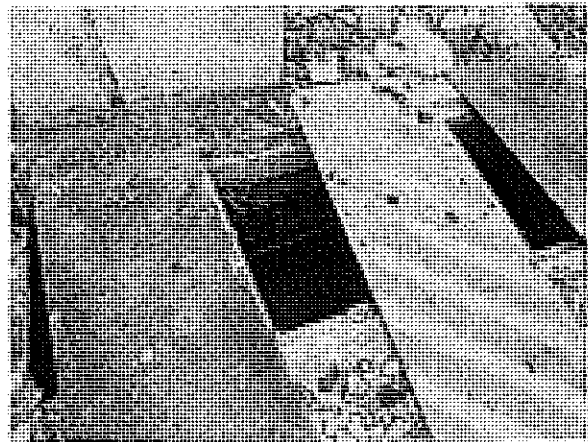
**Remarks**

**Findings of Site Inspection (27 January 2015):**



The Contractor was reminded to clear stagnant water at U-channel for mosquito breeding prevention.

**Follow up (27 January 2015):**



Stagnant water has been removed and the Contractor was reminded to clear the stagnant water regularly.

IEC's representative      RE's representative      ET's representative      EO's representative      Contractor's representative

( )      (Mr. Daniel Chau)      ( Mr. Martin Li )      (Mr. M. K. Leung)      ( )

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
3.07 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"/>	
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10 Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11 Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10 Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11 Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Project: TCS/00512/09 Inspected by \_\_\_\_\_ Checklist No. TCS512B-30 December 2014  
DC-2009-13: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan ETL/ ET's Representative Mr. Martin Li  
 RE's Representative Mr. Daniel Chau  
 Contractor's Representative Mr. M.K. Leung  
 IEC's Representative \_\_\_\_\_  
 Date: 30 December 2014 Time: 11:00

**PART A: GENERAL INFORMATION** Environmental Permit No. EP- 281/2007A

Weather:  Sunny  Fine  Cloudy  Rainy

Temperature: 14.9 °C

Humidity:  High  Moderate  Low

Wind:  Strong  Breeze  Light  Calm

**Area Inspected**  
 1 Sok Kwu Wan

**PART B: SITE AUDIT**

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
<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18	Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
1.22 Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.23 Is used bentonite recycled where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.25 No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26 Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27 Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>	
<b>Section 2: Air Quality</b>						
2.01 Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.04 Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.06 Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.07 Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08 Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13 Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.02 Is silenced equipment adopted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.03 Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06 Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.07 Are air compressors fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.06	Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.13	Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 6: Others</b>							
6.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

(Sok Kwu Wan)

Remarks:

Findings of Site Inspection: (30 December 2014)

Follow up ( 30 December 2014 )

No environmental issue was observed during the site inspection

Nil.

IEC's representative

RE's representative

ET's representative

EO's representative

Contractor's representative

( )

(Mr. Daniel Chau)

( Mr. Martin Li )

( Mr. M.K. Leung)

( )

Project: <u>TCS/00512/09</u>	Inspected by	Checklist No. <u>TCS512B-6 January 2015</u>
<u>DC-2009-13; Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan</u>	ETL/ ET's Representative	<u>Mr. Martin Li</u>
	RE's Representative	<u>Mr. Daniel Chau</u>
	Contractor's Representative	<u>Mr. M.K. Leung</u>
	IEC's Representative	
Date: <u>6 January 2015</u>	Time:	<u>11:00</u>

<b>PART A: GENERAL INFORMATION</b>	Environmental Permit No.
Weather: <input type="checkbox"/> Sunny <input checked="" type="checkbox"/> Fine <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy	<input checked="" type="checkbox"/> EP- 281/2007A
Temperature: <input type="text" value="20.2"/> °C	
Humidity: <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low	
Wind: <input type="checkbox"/> Strong <input type="checkbox"/> Breeze <input checked="" type="checkbox"/> Light <input type="checkbox"/> Calm	

**Area Inspected**  
1 Sok Kwu Wan

**PART B: SITE AUDIT**

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
<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09 Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.14 Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18 Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
1.22	Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.06	Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.13	Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	





Project: TCS/00512/09 Inspected by: TCS512B-13 January 2015  
DC-2009-13: Construction of Sewage ETL/ ET's Representative: Mr. Martin Li  
Treatment Works at Yung Shue Wan and Sok RE's Representative: Mr. Daniel Chau  
Kwu Wan Contractor's Representative: Mr. M.K. Leung  
 IEC's Representative: \_\_\_\_\_  
 Date: 13 January 2015 Time: 11:00

**PART A: GENERAL INFORMATION** Environmental Permit No. EP- 281/2007A

Weather:  Sunny  Fine  Cloudy  Rainy

Temperature: 12.6 °C

Humidity:  High  Moderate  Low

Wind:  Strong  Breeze  Light  Calm

Area Inspected  
 1 Sok Kwu Wan

**PART B: SITE AUDIT**

Note:	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable						
<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09 Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.14 Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18 Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
1.22	Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.06	Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.13	Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

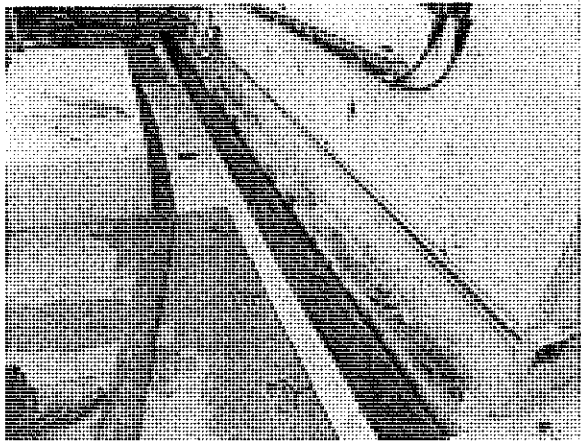
Note:	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<p><b>Section 5: Landscape &amp; Visual</b></p>						
5.01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
5.02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.04	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
<p><b>Section 6: Others</b></p>						
6.01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

(Sok Kwu Wan)

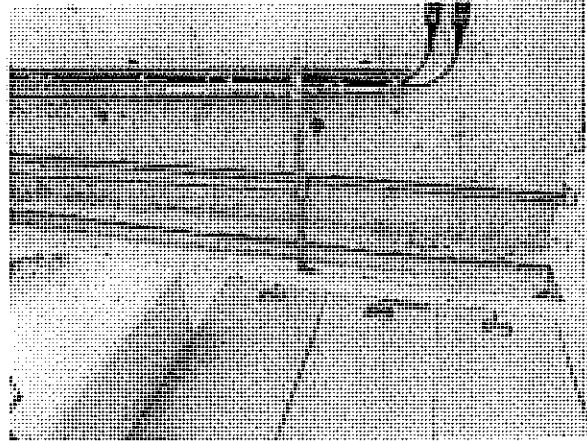
Remarks:

Findings of Site Inspection: (13 January 2015)

Follow up (13 January 2015)



The Contractor was reminded to clear the stagnant water at U-channel on the rooftop of the sewage treatment works for mosquito breeding prevention.



Stagnant water has been removed.

IEC's representative

RE's representative

ET's representative


EO's representative

Contractor's representative

( )

(Mr. Daniel Chau)

  
( Mr. Martin Li )

  
( Mr. M.K. Leung )

( )

Project: <u>TCS/00512/09</u> <u>DC-2009-13: Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan</u>	Inspected by ETL/ ET's Representative RE's Representative Contractor's Representative IEC's Representative	Checklist No. <u>TCS512B-20 January 2015</u> Mr. <u>Martin Li</u> Mr. <u>Daniel Chau</u> Mr. <u>M.K. Leung</u>
Date: <u>20 January 2015</u>	Time: <u>11:00</u>	

<b>PART A: GENERAL INFORMATION</b> Weather: <input type="checkbox"/> Sunny <input checked="" type="checkbox"/> Fine <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy Temperature: <u>15.9</u> °C Humidity: <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low Wind: <input type="checkbox"/> Strong <input type="checkbox"/> Breeze <input checked="" type="checkbox"/> Light <input type="checkbox"/> Calm	Environmental Permit No. <input checked="" type="checkbox"/> EP- 281/2007A
Area Inspected 1 Sok Kwu Wan	

**PART B: SITE AUDIT**

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
<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09 Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.14 Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.18 Is the oil/grease 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



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1.22	Are the oil interceptors/grease traps maintained properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
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2.16	Excavated materials from the stream must be removed from the site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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3.08 Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.09 Are Construction Noise Permit(s) applied for percussive piling works?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.10 Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.11 Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.06 Are the chemical waste containers and storage area properly labelled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.07 Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08 Is the chemical container or equipment provided with drip tray?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.09 Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.10 Are incompatible chemical wastes stored in different areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.11 Are the chemical wastes disposed of by licensed collectors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.12 Are trip tickets for chemical wastes disposal available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.13 Are chemical/fuel storage areas bounded?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.14 Are designated areas identified for storage and sorting of construction wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.21 Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 be managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Note:	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable						
<b>Section 5: Landscape &amp; Visual</b>						
5.01 Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 6: Others</b>						
6.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

(Sok Kwu Wan)

Remarks:

Findings of Site Inspection: (20 January 2015)

Follow up (20 January 2015)

No environmental issue was observed during the site inspection

Nil.

IEC's representative

RE's representative

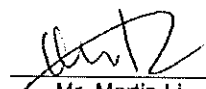
ET's representative


EO's representative

Contractor's representative

( )

(Mr. Daniel Chau)

  
( Mr. Martin Li )

  
( Mr. M.K. Leung )

( )

## **Appendix M**

### **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>									
2.3.18	2.10.2	<p>Adopting the following good site practices and follow the dust control requirements of the Air Pollution Control (Construction Dust) Regulation:</p> <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	√				TM-EIAO, APCO, Air Pollution Control (Construction Dust) Regulation
2.10.3	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>								
2.4.16	3.8.2	<p>Implementation of following measures during the sewer construction:</p> <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 programme.</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	√			EIAO-TM, NCO
2.10.5 to 2.10.9	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>								
2.5.23	4.12.1	No-dig method using Horizontal Directional Drilling (HDD) would be used for the installation of main portion of outfall pipes	Marine works site / During construction of submarine outfall	Contractor	√			
4.5.38	4.12.3	<p>Dredging Works</p> <p>Implementation of following measures during the dredging works:</p> <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 be filled to a level which will cause the overflow of materials or polluted water during loading or transportation; and</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	
2.5.39	4.12.4	<p>the decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.</p> <p><u>Construction Run-off and Drainage</u> Implementation of the following site practices outlined in ProPECC PN 1/94 for “Construction Site Drainage”</p> <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
2.5.39	4.12.5	<p><u>General Construction Activities</u></p> <ul style="list-style-type: none"> <li>Debris and rubbish generated on-site should be collected, handled and disposed of properly to avoid entering the nearby coastal waters and stormwater drains.</li> </ul>	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	
2.5.39	4.12.6	<ul style="list-style-type: none"> <li>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.</li> <li>Open drainage channels and culverts near the works areas should be covered to block the entrance of large debris and refuse.</li> </ul> <p><u>Wastewater Arising from Workforce</u></p> <p>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.</p> <p>Water quality monitoring</p>	Construction works sites	Contractor	√			
2.10.10	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	
2.9.24	5.2.1	Carrying out Sediment Quality Investigation	Marine works site / prior to construction	DSD	√			WBTC No. 34/2002
2.9.23	5.2.1	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
2.9.23	5.2.2	Implement appropriate dredging methods which have been incorporated into the recommended water quality mitigation measures.	Marine works site, during dredging works	Contractor		√		
2.9.23	5.2.3	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		√		

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\*\* 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>								
2.9.14	6.6.2	<p><u>Good site practices</u></p> <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)
2.9.15	6.2.3	<p>The Contractor will be required to open a billing account under the Construction Waste Disposal Charging Scheme, and to pay for disposal of all construction waste. The construction waste will be sent to a designated reception facility, which in this case will be YSW RTS, where drivers must present a valid chit for disposal of each load.</p> <p>Recommendations to achieve waste reduction include:</p> <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</li> </ul>	Work sites/During construction	Contractor		√		Waste disposal (Amendment) Ordinance 2004
2.9.16	6.2.4	<p>Recommendations to achieve waste reduction include:</p> <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</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	
2.9.18	6.2.5	<p>segregate this waste from other general refuse generated by the work force;</p> <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>	Work sites/During construction	Contractor		√		Public Health and Municipal Services Ordinance (Cap. 132)
2.9.19	6.2.6 and 6.2.7	<p><u>General Site Wastes</u></p> <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> <p><u>Chemical Wastes</u></p> <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 Ordinance.</li> </ul>	Work sites/During construction	Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging and Labelling and Storage of Chemical Wastes

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Yung Shue Wan and Sok Kwu Wan  
Yung Shue Wan – Monthly EM&A Report (January 2015)



EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines
					D	C	O	
2.9.21 and 2.9.22	6.2.8 and 6.2.9	<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> <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>								
2.10.11 and 2.10.12	7.2 and 7.3	Carry out monitoring of corals before, during and after marine works.	Work sites / during construction phase	Contractor		√		
2.6.45 to 2.6.48	7.6.1	Use horizontal directional drilling to avoid direct disturbance to corals	Marine works site / during dredging works	Contractor		√		
2.6.57 to 2.6.58	4.12.3	Deploying of 2-layer silt curtains with the first layer enclosing the grab an the second layer at around 50m from the dredging area while dredging works are in progress	All work sites / during construction phase	Contractor		√		
2.6.51	7.6.1	Fence off the slope stabilisation works area from surrounding shrubland and/ woodland, to prevent access to or disturbance of adjacent habitats. The works area should be as small as is possible, consistent with the requirements of the works.	STW/ During construction	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	
2.5.37	4.12.4	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

\* 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 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>									
2.8.37	9.2.2	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
2.8.37	9.2.2	Short excavation and immediate backfilling sections upon completion of works to reduce active site area.	All sites	Contractor	√				
2.8.37	9.2.2	Screening of site construction works by use of hoarding that is appropriate to its site.	All sites	Contractor	√				WBTC No. 19/2001
2.8.37	9.2.2	Conservation of topsoil for reuse.	All sites	Contractor	√				
2.8.30	9.2.2	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