


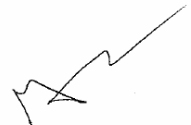
PROJECT No.: TCS/00408/08

DSD CONTRACT NO. DC/2007/17  
DRAINAGE IMPROVEMENT WORKS IN  
CHEUNG PO, MA ON KONG, YUEN KONG SAN TSUEN  
AND TIN SAM TSUEN OF YUEN LONG DISTRICT AND  
SEWERAGE AT TSENG TAU CHUNG TSUEN, TUEN MUN

MONTHLY EM&A REPORT FOR KT13  
(APRIL 2009)

PREPARED FOR  
CHINA ROAD & BRIDGE CORPORATION

### Quality Index

Date	Reference No.	Prepared By	Certified by
13 May 2009	TCS00408/08/600/R0991v2	 Nicola Hon Environmental Consultant	 Andrew Lau Environmental Team Leader

Version	Date	Prepared by:	Certified by:	Description
1	8 May 2009	Nicola Hon	Andrew Lau	First submission
2	13 May 2009	Nicola Hon	Andrew Lau	Amended as per IEC comments of 11 May 2009

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Ove Arup & Partners  
奧雅納工程顧問

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Attention: Mr. Clive Cheng

ARUP

Dear Mr. Cheng,

**Contract No. DC/2007/17 Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen King San and Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun Monthly EM&A Report for KT13 (April 2009) – Revision 2**

We refer to the captioned submission (letter ref.: TCS00408/08/600/R0991v2) and advise that we have no further comment on the captioned report.

We hereby endorse the captioned report for your onward submission.

If you require any further information, please do not hesitate to contact the undersigned.

Yours sincerely,



Coleman Ng  
Independent Environmental Consultant

cc: China Road and Bridge Corporation (Mr. Raymond Mau) (Fax: 2478 9612)  
AUES (Mr. TW Tam / Mr. Andrew Lau) (Fax: 2959 6079)

## Executive Summary

ES01 This is the 7th monthly EM&A report for the Channel KT13, covering the construction period from 26 March 2009 to 25 April 2009 (the Reporting Period).

## Breaches of Action and Limit Levels

ES02 Monitoring results of the Reporting Period demonstrated no exceedance of environmental quality criteria for air quality, construction noise and ecology.

ES03 A total of seven (7) exceedances of water quality criteria, due to turbidity and suspended solids (SS) were recorded at one downstream monitoring station, W6, during the Reporting Period. Investigations concluded that the exceedances were not related to this project as no construction works were undertaken in the vicinity of the area. All measured parameters of those four samples are summarized below:

Location	Exceedance	DO	Turbidity	pH	SS	NH <sub>4</sub> <sup>+</sup> N	Zn	Total
W6	Action Level	0	0	0	0	0	0	0
	Limit Level	0	6	0	1	0	0	7
Total	Action Level	0	0	0	0	0	0	0
	Limit Level	0	6	0	1	0	0	7

ES04 During the Reporting Period, there was no construction work conducted within 100m of the cultural heritage site at KT13. Therefore, no cultural heritage monitoring was required in accordance with the approved methodology. Landscape inspection was conducted on 6 and 20 April 2009. No significant changes were observed for the identified landscape resources and visual sensitive receivers, except for minor changes due to channel excavation, site clearance and preparation work at the identified landscape resources including LR1, LR2.1, LR2.2, LCA1, LCA3 and LCA4.

## Environmental Complaint, Notification of Summons and Prosecution

ES05 No documented complaint, notification of summons and successful prosecution was received during the Reporting Period. No major environmental impacts were observed during the weekly site inspection. Environmental audit of the Reporting Period, indicated that the implemented mitigation measures for air quality, construction noise and ecology were effective. Minor deficiencies found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

## Reporting Changes

ES06 No reporting changes were made during the Reporting Period.

## Future Key Issues

ES07 As wet season has approached, water quality mitigation measures to avoid ingress of runoff into Channel KT13 should be properly installed and maintained, as appropriate.

ES08 To prevent exceedance of water quality, it is recommended that water quality mitigation measures stipulated in the EIA and summarized in the EM&A Manual, including containment structure such as temporary earth bunds, sand bags, sheet pile barriers or other similar techniques, should be fully implemented. In addition, implemented mitigation measures such as sand bags downstream of the excavation site may also be improved to cater for additional water flows during wet season.

ES09 Special attention should be paid to construction noise and other environmental issues identified in the EM&A Manual as recommended in the EIA and summarized in

Mitigation Measure Implementation Schedule.

- ES10 Proposal for adopting the pH range of 6 to 9 pH value in place of the existing pH Action and Limit Level has been approved by ER and IEC's. The submission has been proceeding to EPD for formal approval.



## Table of Contents

<b>1</b>	<b>ENVIRONMENTAL STATUS .....</b>	<b>- 1 -</b>
1.1	PROJECT AREA AND CONSTRUCTION PROGRAMME .....	- 1 -
1.2	WORKS UNDERTAKEN DURING THE REPORTING PERIOD .....	- 1 -
1.3	ENVIRONMENTAL MANAGEMENT ORGANIZATION.....	- 1 -
1.4	LICENSING STATUS.....	- 1 -
1.5	ENVIRONMENTAL PROTECTION AND POLLUTION CONTROL MITIGATION MEASURES .....	- 2 -
<b>2</b>	<b>MONITORING METHODOLOGY .....</b>	<b>- 3 -</b>
2.1	MONITORING PARAMETERS .....	- 3 -
2.2	MONITORING LOCATIONS .....	- 3 -
2.3	MONITORING FREQUENCY, DURATION AND SCHEDULE.....	- 4 -
2.4	MONITORING EQUIPMENT AND PROCEDURE .....	- 5 -
2.5	QUALITY ASSURANCE PROCEDURES AND DATA MANAGEMENT .....	- 10 -
2.6	REPORTING .....	- 11 -
<b>3</b>	<b>MONITORING RESULTS .....</b>	<b>- 12 -</b>
3.1	AIR QUALITY .....	- 12 -
3.2	CONSTRUCTION NOISE .....	- 13 -
3.3	WATER QUALITY .....	- 14 -
3.4	ECOLOGY .....	- 15 -
3.5	WASTE MANAGEMENT, CULTURAL HERITAGE AND LANDSCAPE & VISUAL.....	- 17 -
<b>4</b>	<b>NON-COMPLIANCE, COMPLAINT, NOTIFICATION OF SUMMONS, SUCCESSFUL PROSECUTION AND OTHERS .....</b>	<b>- 18 -</b>
4.1	NON-COMPLIANCE .....	- 18 -
4.2	ENVIRONMENTAL COMPLAINT .....	- 18 -
4.3	NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION .....	- 18 -
4.4	OTHERS .....	- 18 -
<b>5</b>	<b>CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>- 20 -</b>

## **LIST OF TABLES**

Table 2-1	Summary of Monitoring Parameters
Table 2-2	Summary of Monitoring Locations
Table 2-4-2	Air Quality Monitoring Equipment
Table 2-4-3	Construction Noise Monitoring Equipment
Table 2-4-4	Water Quality Monitoring Equipment
Table 2-6	Requirements for Report Submission
Table 3-1-1	Air Quality Action and Limit Levels
Table 3-1-2-1	Summary of Air Quality Monitoring Results at KT13-A1(a)
Table 3-1-2-2	Summary of Air Quality Monitoring Results at KT13-A2
Table 3-2-1	Construction Noise Action and Limit Levels
Table 3-2-2-1	Summary of Construction Noise Monitoring Results – N1(a)
Table 3-2-2-2	Summary of Construction Noise Monitoring Results – N2(a)
Table 3-2-2-3	Summary of Construction Noise Monitoring Results – N3
Table 3-3-1	Action and Limit Levels for Water Quality Monitoring
Table 3-3-2	Summary of Water Quality Exceedances
Table 3-4-1	Ecological Action and Limit Levels
Table 3-4-2	Summary of KT13 Ecology Impact Monitoring Bird Survey
Table 3-5-2	Cultural Heritage Resources Action and Limit Levels
Table 4-4-1	Summary of Findings of Site Inspection and Environmental Audit

## **LIST OF APPENDICES**

Appendix A	Location Plan of the Project and Environmental Monitoring Locations under the Project
Appendix B	Construction Program
Appendix C	Environmental Management Organization and Contacts of Key Personnel
Appendix D	Monitoring Schedules and Meteorological Data
Appendix E	Calibration Certificates and HOKLAS-Accreditation Certificate
Appendix F	Event Action Plan
Appendix G	Environmental Monitoring Results and Graphical Plots
Appendix H	Photographic Records of Ecological Monitoring of Vegetation (Not Used)
Appendix I	Physical, Human and Cultural Landscape Resources at KT13
Appendix J	Monthly Summary Waste Flow Table

## 1 ENVIRONMENTAL STATUS

This is the seventh monthly EM&A report for KT13, covering the construction period from 26 March 2009 to 25 April 2009 (the Reporting Period).

### 1.1 PROJECT AREA AND CONSTRUCTION PROGRAMME

Drawings showing the project area, any environmental sensitive receivers and the locations of the monitoring and control stations are presented in **Appendix A**, and the construction program in **Appendix B**.

### 1.2 WORKS UNDERTAKEN DURING THE REPORTING PERIOD

Apart from general works of tree survey, structural survey and environmental monitoring & audit, works undertaken during the Reporting Period with fine tuning of construction activities showing the inter-relationship with environmental protection/mitigation measures for the month are summarized as follows:

- (a) Excavation of Channel Formation;
- (b) Construction of Channel Structures;
- (c) Backfilling and drain laying work; and
- (d) Installation of Type 2 railing

### 1.3 ENVIRONMENTAL MANAGEMENT ORGANIZATION

Management structure and key personnel contact names and telephone numbers of the environmental management organization are presented in **Appendix C**, where DSD is the Project Proponent; CRBC is the main Contractor; EPD and AFCD are the supervisory departments for environmental protection of the Project; BVHKL is the Engineer's Representative of DSD (the ER); ARUP is the Independent Environmental Checker (the IEC) and Action-United Environmental Services and Consulting (AUES) is the environmental team (the ET).

### 1.4 LICENSING STATUS

#### 1.4.1 Air Pollution Control (Construction Dust) Regulation

Pursuant to the **Air Pollution Control (Construction Dust) Regulation**, CRBC has notified EPD, via submission of Form NA dated 14 February 2008, of the scope and nature of the works to be carried out under the Project, including construction activities such as stockpiling, loading and unloading, transfer of dusty material, use of vehicles and debris handling, etc. CRBC will continuously review the status of the environmental licenses and apply the required licenses/permits prior to the commencement of construction work.

#### 1.4.2 Noise Control Ordinance

No **Construction Noise Permit** (CNP) is required for the Project pursuant to the Noise Control Ordinance (NCO) and the associated applicable subsidiary regulations of **Noise Control (General) Regulation, Noise Control (Hand-held Percussive Breaker) Regulation and Noise Control (Air Compressor) Regulation**, as the use of powered mechanical equipment, or conducting construction work in during restricted hours, i.e. 1900 to 0700 hours on normal weekdays and any time on general holidays including Sundays is not anticipated during the whole construction period. CRBC will continuously review the status of the environmental licenses under the NCO and apply the required licenses/permits prior to the commencement of construction work.

#### 1.4.3 Waste Disposal (Charges for Disposal of Construction Waste) Regulation

CRBC has applied for a Billing Account (Construction Work Contract with Value of \$1million or above), under the **Waste Disposal (Charges for Disposal of Construction Waste) Regulation**. The account number 7006524 has been assigned on 9 Jan 2008.

1.4.4 Water Pollution Control Ordinance

CRBC has applied for a discharge license under Section 20 of the **Water Pollution Control Ordinance**, and the license No. 1U461/1 has been issued.

1.4.5 Waste Disposal (Chemical Waste) (General) Regulation

CRBC has registered as a Chemical Waste Producer with EPD under the Waste Disposal (Chemical Waste) (General) Regulation and the Waste Producer Number assigned is WPN: 5611-531-C3124-28 dated 2 May 08.

1.4.6 Dumping at Sea Permit

CRBC has been granted by the Environmental Protection Department a Permit Issued under the **Dumping at Sea Ordinance** (Permit no. EP/I4D/08-095, dated 18 September 2008, permit validity period of six months from 18 September 2008 to 17 March 2009) for disposal of 18,469 m<sup>3</sup> sediment, requiring Type 1 – open sea disposal at East Sha Chau Contaminated Mud Disposal Site – Pit IV b, to be capped as directed by the Management Team of the Civil Engineering and Development Department. Note that this permit has expired. As there is no need for further sea disposal, no further permits will be required in the future.

1.5 ENVIRONMENTAL PROTECTION AND POLLUTION CONTROL MITIGATION MEASURES

CRBC has committed to implement environmental protection and pollution control and mitigation measures, as recommended in the EIA, EP, EM&A Manuals, and summarized in the Mitigation Measures Implementation Schedules. The implemented mitigation measures include

- (a) Watering of stockpiles of rip-rap at KT13;
- (b) Covering of the loose soil at KT13 to minimize water quality impacts;
- (c) Hard pavement of haul road leading to public roads at KT13;
- (d) Classification and disposal of illegally dumped construction and demolition materials at KT13;
- (e) Construction of noise barriers; and
- (f) Erection of dams with sand bags downstream the excavation site within the water course of KT13 to enhance sedimentation of turbidity and suspended solids (SS).

## 2 MONITORING METHODOLOGY

### 2.1 MONITORING PARAMETERS

According to the EM&A requirements set out in the EIA, Environmental Permit No. EP263/2007 (the EP) and the associated EM&A Manual, the required monitoring parameters are summarized as follows.

**Table 2-1 Summary of Monitoring Parameters**

Environmental Issue	Monitoring Parameters	
Air Quality	(a) 1-hour Total Suspended Particulate (1-hour TSP); and (b) 24-hour Total Suspended Particulate (24-hour TSP).	
Construction Noise	(a) A-weighted equivalent continuous sound pressure level (30min) (Leq(30min) during the normal working hours; and (b) A-weighted equivalent continuous sound pressure level (5min) (Leq(5min) for construction work during the Restricted Hours.	
Water Quality	(a) In Situ Measurement	temperature, dissolved oxygen (DO), pH & turbidity
	(b) Laboratory Analysis	suspended solids (SS), Ammonia Nitrogen (NH <sub>3</sub> -N) and Zinc (Zn)
Ecology	Vegetation, all bird species of wetland, Ho Pui Egret, Ma On Hong Egret and Flight Line Survey	
Waste Management	Inspection and the document audit	
Cultural Heritage	Condition survey for a historical grave	
Landscape & Visual	To audit the implementation of the proposed construction phase mitigation measure stipulated in EIA.	

### 2.2 MONITORING LOCATIONS

Details of the monitoring locations are summarized in **Table 2-2** and shown in **Appendix A**. For ease of reference, monitoring locations denoted with “(a)” are relocated locations to differentiate them from the original ‘EM&A Manual’ locations.

**Table 2-2 Summary of Monitoring Locations**

Environmental Issues	Monitoring Location	Identified Address / Co-ordinates	Status of Monitoring Locations / Rationale for Recommended Replacement
Air	A1(a)	No.68 Ho Pui Village	The original location of EM&A Manuals A1 has permanently been abandoned. No access can be acquired in the vicinity of A1. Taken into consideration that Ho Pui Village is one of the most important sensitive receivers near KT-13 without monitoring, the most fronting house, No. 68 Ho Pui Village, is therefore recommended as the replacement location A1(a).
	A2	No.1 Ma On Kong Village	Original location of the EM&A Manual; access granted.
Noise	N1(a)	168-169 Kam Ho Road, Ma On Kong Village,	Original location of N1 identified in the EM&A Manual was relocated to proposed area as recommended by IEC.
	N2(a)	No. 68 Ho Pui Village,	The original location of EM&A Manuals N2 has permanently been abandoned. No access can be acquired in the vicinity of N2. Taken into consideration that Ho Pui Village is one of the most important sensitive receivers near KT-13 without monitoring, the most fronting house, No. 68 Ho Pui Village, is therefore recommended as the replacement location N2(a).
	N3	No.1 Ma On Kong Village	Original locations of the EM&A Manual; access granted.
Water	W1	E824539 / N830283	Original locations of the EM&A Manual; access resolved.

Environmental Issues	Monitoring Location	Identified Address / Co-ordinates	Status of Monitoring Locations / Rationale for Recommended Replacement
	W2	E824693 / N830258	Original locations of the EM&A Manual; access resolved.
	W3(a)	E824833 / N830374	The W3 is proposed to be relocated about 55 m down stream to W3(a) for safety reason as there is no any discharge point observed between W3 and the proposed W3(a).
	W4	E824936 / N830618	Original locations of the EM&A Manual; access resolved.
	W5	E825008 / N830812	Original locations of the EM&A Manual; access resolved.
	W6	E825100 / N830987	Original locations of the EM&A Manual; access resolved.
Ecology	Monthly monitoring along the boundary of the works area to confirm that there are no adverse impacts on habitats outside the site in particular the Conservation Area (CA) zone and Ho Pui Egretty. Photographic records at six-month intervals; Monthly monitoring of all bird numbers including wetland species and species identified as being of conservation importance; Monitoring of Ho Pui egretty during March to August. The Ma On Kong egretty is also surveyed to provide reference information on the breeding egrets nearby; and Flight line surveys twice per month during April to June.		
Waste Management	Whole construction site and document		
Cultural Heritage	Ma On Kong	Refer to EM&A Manual (KT13) Figure 7.1.	
Landscape & Visual	Refer to EIA Section 10		

## 2.3 MONITORING FREQUENCY, DURATION AND SCHEDULE

### 2.3.1 Monitoring Frequency and Duration

Environmental monitoring is conducted upon commencement of the construction activities and throughout the whole construction period to detect and minimize any adverse environmental impacts generated from the construction activities of the Project. The monitoring frequency and duration for air quality, construction noise, water quality, ecology and other parameters are summarized below.

#### **Air Quality**

**Frequency:** Once every 6 days for 24-hour TSP and three times every 6 days for 1-hour TSP, when the highest construction dust impacts are anticipated.

**Duration:** Throughout the construction period

#### **Construction Noise**

**Frequency:** Measurement of Leq(30min): Once a week during 0700-1900 hours on normal weekdays. If the construction work is undertake at restricted hours, the frequency of noise monitoring will be conducted in accordance with the requirements under the related Construction Noise Permit issued by EPD as follows:

- 3 consecutive Leq(5min) at restrict hour from 1700 – 2300 hours;
- 3 consecutive Leq(5min) for restrict hour from 2300 – 0700 hours next day;
- 3 consecutive Leq(5min) for Sunday or public holiday from 0700 – 1900 hours;

**Duration:** Throughout the construction period



### **Water Quality**

**Frequency:** Three times a week with at least 36 hour intervals between any two consecutive monitoring events

As the water columns in the stream water within KT13 is generally less than 3m, measurement is performed at the mid-depths of the monitoring locations. In case the water columns are deeper than 6m, measurement shall be carried out at three water depths, namely, 1m below water surface, mid-depth, and 1m above river bed. If the water depths are between 3 to 6m, the mid-depth measurement is omitted.

**Depths:** As the water columns in the stream water within KT13 is generally less than 3m, measurement is performed at the mid-depths of the monitoring locations. In case the water columns are deeper than 6m, measurement shall be carried out at three water depths, namely, 1m below water surface, mid-depth, and 1m above river bed. If the water depths are between 3 to 6m, the mid-depth measurement is omitted.

**Duration:** Throughout the construction period.

### **Ecology**

The Ecology Monitoring is required in accordance with the EM&A Manual.

**Parameters:** Vegetation, All bird species including wetland birds, Ho Pui and Ma On Hong Egrettries and Flight line survey

**Frequency:** Vegetation – Impact monitoring – monthly;  
Photographic records/checks against baseline records– six monthly  
Wetland Bird survey – Monthly of half-day survey;  
Ma On Kong egrettry – Monthly between March to August; and  
Ho Pui egrettry – Bi-weekly between March and August;  
Flight line Survey – Month during the period from April to June

**Duration:** Throughout the whole construction period

### **Waste Management Audit**

**Frequency:** Once per month

**Duration:** Throughout the construction period.

### **Cultural Heritage**

**Scope:** Condition survey of a Qing Dynasty Grave.

**Frequency:** Bi-monthly

**Duration:** Throughout the construction phase period.

### **Landscape & Visual**

**Frequency:** Bi-weekly

**Duration:** Throughout the construction phase period.

#### 2.3.2 Environmental Monitoring Schedule

The monitoring schedules for the Reporting Period and next month are presented in **Appendix D**.

#### 2.4 MONITORING EQUIPMENT AND PROCEDURE

The monitoring equipment and procedures are summarized below. Calibration certificates of the equipment and the related laboratories are presented in **Appendix E**.

2.4.1 Weather Conditions during the Reporting Period

All meteorological information is extracted from the Hong Kong Observatory (Lau Fau Shan Station). The meteorological data include wind direction, wind speed, humidity, rainfall, air pressure and temperature etc., that in general are required for evaluating the environmental impact arising from the construction activities. The meteorological data are presented in **Appendix D**.

2.4.2 Air Quality

**Monitoring Equipment**

A list of air quality monitoring equipment is shown below.

**Table 2-4-2 Air Quality Monitoring Equipment**

Equipment	Model	Serial Number
<b>24-hour TSP</b>		
High Volume Air Sampler	Grasby Anderson GMWS 2310 HVS	-
Calibration Kit	TISCH Model TE-5028A	-
<b>1-hour TSP</b>		
Portable Dust Meter	Sibata LD-3 Laser Dust Meter (2)	362337 and 362359

**Monitoring Procedure**

**1-hour TSP**

The 1-hour TSP measurement follows manufacturer's Operation and Service Manual, using a 1-hour TSP monitor brand named TSI Dust Track Aerosol Monitor Model 8520 or Sibata LD-3 Laser Dust Meter, which is a portable, battery-operated laser photometer to record the real time 1-hour TSP based on 90° light scattering. The 1-hour TSP monitor consists of the following:

- (a) A pump to draw sample aerosol through the optic chamber where TSP is measured;
- (b) 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.

The 1-hour TSP meter to be used will be within the valid period, calibrated by the manufacturer prior to purchasing. Zero response of the instrument will be checked before and after each monitoring event.

**24-hour TSP**

The equipment used for 24-hour TSP measurement is the high volume air sampling system (hereinafter 'HVS') brand named Thermo Andersen, Model GS2310 TSP. The HVS complies with US EPA Code of Federal Regulation, Appendix B to Part 50. The HVS consists of the following:

- (a) An anodized aluminum shelter;
- (b) A 8"x10" stainless steel filter holder;
- (c) A blower motor assembly;
- (d) A continuous flow/pressure recorder;
- (e) A motor speed-voltage control/elapsed time indicator;
- (f) A 6-day mechanical timer, and
- (g) A power supply of 220v/50 Hz

The HVS is operated and calibrated on a regular basis following the manufacturer's instruction using the NIST-certified standard calibrator brand named TISCH Calibration Kit Model TE-5025A. Regular HVS operation and maintenance as well as filter paper installation and collection is performed by the ET's competent technicians, whereas laboratory analyses are conducted in a local HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (herein after 'ALS'). The 24-hour TSP filters of the 24-hour TSP will be kept in ALS for six months prior to disposal.



All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper are recorded in details.

#### 2.4.3 Construction Noise

##### **Monitoring Equipment**

A list of construction noise monitoring equipment is shown below.

**Table 2-4-3 Construction Noise Monitoring Equipment**

Equipment	Model	Serial Number
Integrating Sound Level Meter	B&K Type 2238	2285762
Calibrator	B&K Type 4231	2292167
Portable Wind Speed Indicator	Testo Anemometer	-

##### **Monitoring Procedure**

Sound level meters listed above comply with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications, as recommended in Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO).

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(15min) 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.

The sound level meter is 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 is fitted for all measurements. Where a measurement is to be carried out at a building, the assessment point is normally 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 is 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.

Immediately prior to and following each noise measurement the accuracy of the sound level meter is 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 levels from before and after the noise measurement agree to within 1.0dB. No noise measurement will be made in the present of significant fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed is checked with a portable wind speed meter capable of measuring the wind speed in m/s.

#### 2.4.4 Water Quality

##### **Monitoring Equipment**

Monitoring Equipment for water quality is listed below.

**Table 2-4-4 Water Quality Monitoring Equipment**

Equipment	Model / Description	Serial Number
Water Depth Detector	Eagle Sonar	-
Water Sampler	Teflon bailer / bucket	-
Thermometer & DO meter	YSI 55/12FT	97F0837AM
pH meter	Hanna HI98107	s411364

Equipment	Model / Description	Serial Number
Turbidimeter	Hach 2100p	95090008735
Hand Refractometer	ATAGO	289468
Sample Container	High density polythene bottles (provided by laboratory)	-
Storage Container	'Willow' 33-litter plastic cool box	-

### **Monitoring Procedure**

#### **Water Depth**

As the water columns in the stream water within KT13 is generally less than 3 m, measurement is performed at the mid-depths of the monitoring locations. In case the water columns are deeper than 6 m, measurement shall be carried out at three water depths, namely, 1 m below water surface, mid-depth, and 1 m above river bed. If the water depths are between 3 to 6 m, the mid-depth measurement is omitted.

Water depths are determined prior to measurement and sampling, using a portable battery operated depth detector, brand named 'Eagle Sonar', if the depths exceed 1.5 meter. For the depths well below 1 meter, the depths of water columns are measured with a steel ruler with appropriate weight.

#### **Dissolved Oxygen (DO)**

A portable YSI 55/12FT DO Meter will be used for in-situ DO measurement. The DO meter is capable of measuring DO in the range of 0 - 20 mg/L and 0 - 200 % saturation and checked against water saturated ambient air on each monitoring day prior to monitoring. Although the DO Meter automatically compensates ambient water temperature to a standard temperature of 20°C for ease of comparison of the data under the changing reality, the temperature readings of the DO Meter will be recorded in the field data sheets. Calibration of the equipment will be performed by ALS on quarterly basis.

#### **pH**

A portable Hanna pH Meter will be used for in-situ pH measurement. The pH meter is capable of measuring pH in the range of 0 – 14 and readable to 0.1. Standard buffer solutions of pH 7 and pH 10 are used for calibration of the instrument before and after measurement. Quarterly calibration of the equipment will be performed by ALS.

#### **Turbidity**

A portable Hach 2100p turbidity Meter will be used for in-situ turbidity measurement. The turbidity meter is capable of measuring turbidity in the range of 0 – 1000 NTU. Calibration of the equipment will be performed by ALS on quarterly basis.

#### **Salinity**

A portable hand Refractometer AGATO will be used for in-situ salinity measurement. The refractometer is capable of measuring salinity in the range of 0-70ppt with accuracy  $\pm 1\%$  reading. Calibration of the equipment will be performed by ALS on quarterly basis.

#### **Suspended Solids (SS)**

SS will be determined by ALS upon receipt of the water samples using the HOKLAS accredited analytical method - ALS Method EA-025.

#### **Ammonia Nitrogen(NH<sub>3</sub>-N)**

NH<sub>3</sub>-N will be examined by ALS upon receipt of the water samples using the HOKLAS accredited analytical methods - ALS Method EK-055A.

#### **Zinc(Zn)**

Zn will be analyzed by ALS upon receipt of the water samples using the HOKLAS accredited analytical methods - ALS Method EG-020.

#### **Water Sampler**

Water samples will be collected using a plastic sampler to prevent metal contamination. As the water depths in the stream water within KT13 are generally less than 0.5 m, a plastic bucket with a rope of appropriate length is used for water sampling. The sampler is rinsed before collection with the sample to be taken. For water depths deeper than 0.5 meter, a

cleaned plastic bailer bucket will be used for sample collection.

1000 mL water sample is collected from each depth for SS determination. The samples collected are stored in a cool box maintained at 4°C and delivered to ALS upon completion of the sampling by end of each sampling day.

#### Sample Container

Water samples are contained in screw-cap PE (Poly-Ethylene) bottles, which are provided and pretreated according to corresponding HOKLAS and ALS analytical requirements. Where appropriate, the sampling bottles are rinsed with the water to be contained. Water samples are then transferred from the water sampler to the sampling bottles to 95% bottle capacity to allow possible volume expansion during delivery and storage.

#### Sample Storage

A 'Willow' 33-litter plastic cool box packed with ice will be used to preserve the collected water samples prior to arrival at ALS. The water temperature of the cool box will be maintained at a temperature as close to 4°C as possible without being frozen. Samples collected will be delivered to the laboratory upon collection within the maximum storage time required under the HOKLAS and ALS analytical requirements

### 2.4.5 Ecology

Monthly walk through survey will be conducted along the boundary of work area for KT13. Bird monitoring will be conducted in the study areas monthly for KT13. Monitoring on the Ho Pui egret and Ma On Kong egret will be conducted between March to August. Flight line surveys to record the feeding areas and the habitat use of breeding egrets will be conducted between April to June. Photographic record should be made at six month intervals.

#### Monitoring Equipment

The following equipment will be used for monitoring:-

Standard portable field survey equipment was used for ecological monitoring, including

- (a) Binoculars of 10 x 40 magnifications;
- (b) Digital camera; and
- (c) Notebook.

#### Study Area

The areas for the ecological monitoring programme would cover 60 m on either side of the existing channel as well as the proposed bypass culvert, as shown in Figure 6.1 of the EM&A Manual. Within these, emphasis will be given to the area around the Ho Pui and Ma On Kong egrettries and habitats of at least moderate ecological value. In addition, monitoring would also be undertaken at the Ho Pui egret and Ma On Kong egret (The Ma On Kong egret is outside the demarcated monitoring area but is also monitored to identify any adverse effects on the breeding egrets).

#### Survey Method

Monthly monitoring will be conducted by means of walk through survey, along the boundary of work area for KT13. Any adverse impacts to the habitats outside the site, in particular the Conservation Area (CA) zone and Ho Pui Egret, will be checked and reported.

Photographic records will be made every six months on the fixed photo record points selected during the baseline survey. The photos from the construction phase ecological monitoring will be compared with those taken during the baseline, which are used as the baseline conditions.

Bird monitoring will be conducted in the study areas monthly for KT13. Attention should be paid on wetland species and species identified as being of conservation importance, and the habitats utilized should also be recorded. Bird surveys should commence no

later than 2 hours after dawn.

Monitoring on the Ho Pui egret and Ma On Kong egret will be conducted between March to August. The frequency would be twice per month during March to May. Depending upon the nesting conditions at Ho Pui egret, the frequency could be reduced to monthly between June and August if no egret nest found by the end of May, or maintained at twice per month till the end of August if there are egret nests. Number of active nests, species and number of birds present and breeding stage should be recorded.

Flight line surveys to record the feeding areas and the habitat use of breeding egrets will be conducted twice per month between April to June. The number and species of flying egrets, and their landing habitats and locations should be recorded.

#### 2.4.6 Waste Management, Cultural Heritage and Landscape & Visual

Waste Management, Cultural Heritage and Landscape & Visual monitoring is required for KT13 as stipulated in the EM&A manual [382047/E/EMA/Issue 5] **Section 5**, **Section 7** and **Section 8** accordingly.

##### **Waste Management**

During the monthly audit, ETL will pay attention to the issues relating to waste management, and check whether the Contractor has followed the relevant contract Specifications and the procedures specified under the law of HKSAR.

##### **Cultural Heritage**

Condition survey by a qualified archaeologist is required for the historical grave near Ma On Kong before and during the construction phase. The method statement of condition survey of Ma On Kong Historic Grave (KT13-02-02) was issued to EPD and endorsed on 27 July 2008, the frequency of the condition survey during the construction phase and given the open cut method would be adopted for the construction of the proposed bypass box culvert under KT13 project, subject to the result of the condition survey carried out before the construction stage, it is recommended that bi-monthly condition survey be undertaken during the construction work within 100m area from the grave.

##### **Landscape and Visual**

In accordance with the EM&A manual [382047/E/EMA/Issue5] **Section 8** landscape and visual mitigation measures are required during construction and operation phase. Site inspection will be undertaken at least once every two weeks throughout the construction period to ensure compliance with the intended aims of the proposed mitigation measures.

#### 2.5 QUALITY ASSURANCE PROCEDURES AND DATA MANAGEMENT

##### 2.5.1 Documentation of the Environmental Monitoring

Field data including in-situ monitoring results, weather conditions and water sampling information and observation will be recorded in corresponding Field Data Sheets, which will be signed and dated by the respective environmental technician prior to submission to the ETL for validation and endorsement at the end of the monitoring day.

##### 2.5.2 Data Management and Analysis

All impact monitoring data will be processed by the AUES data recording and management system, which complies with in-house Quality (**ISO 9001:2000**) Management System. Monitoring results recorded in the monitoring equipment e.g. 1-hour TSP Meters and Noise Meters will be downloaded directly from the equipment at the end of the monitoring period and input into a computerized database maintained by the ET. Laboratory results will be input directly into the computerized database and checked by personnel other than those who input the data.

##### 2.5.3 Quality Assurance Procedures

Appropriate and standard QA/QC measures will be adopted for the environmental monitoring to ensure the scientific integrity of the data produced. Sources of error in the

impact monitoring will be properly controlled with the following QA/QC procedures:

- (a) Appropriate field monitoring and sampling techniques, including monitoring equipment, storage and delivery of samples;
- (b) Well organized systematic field-data system e.g. all baseline monitoring information, field observation, results, weather conditions and water sampling information, etc. will be recorded in the field monitoring record sheets. The laboratory analysis records will be maintained by the HOKLAS following HOKLAS requirements;
- (c) HOKLAS requirements for QA/QC of all laboratory testing to ensure acceptable accuracy and reproducibility of the laboratory analysis indicated by consistent agreement between duplicate samples, validity of the analytical results by compliance with the required blanks and recovery of standard addition.

#### 2.5.4 Records

All impact monitoring data will be clearly and systematically documented in both hardware and software format and the software copy will be available for inspection upon request. All the document and data will be kept for at least one year after completion of the Project. Field Data Sheets used to record the impact monitoring information, field observation, results, weather conditions and water sampling information, etc., will be properly maintained and kept by the ET. The copies of laboratory analysis records from ALS will be kept by the ET throughout the at least one year after completion of the EM&A program of the Project.

## 2.6 REPORTING

### 2.6.1 General Requirements for Report Submission

General requirements for Monthly EM&A report submission as stipulated in the EIA, EP and EM&A Manual are summarized below.

**Table 2-6 Requirements for Report Submission**

Report	Submission
Monthly EM&A Report	<ul style="list-style-type: none"> <li>• Within 10 working days of the end of each reporting month.</li> </ul>
Quarterly EM&A Summary Report	<ul style="list-style-type: none"> <li>• No specific requirement, proposed three weeks after endorsement of the 3<sup>rd</sup> monthly EM&amp;A report within a particular quarter.</li> </ul>
Final EM&A Summary Report	<ul style="list-style-type: none"> <li>• No specific requirement, proposed one month upon completion of entire EM&amp;A program</li> </ul>

### 2.6.2 Cut-Off Day of the Reporting Month

It was agreed among the ER, IEC, CRBC, ET and EPD 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.



### 3 MONITORING RESULTS

The environmental monitoring results will be compared against the Action and Limit Levels established based on the baseline monitoring results and statutory criteria. In case the measured data exceed the environmental quality criteria, remedial actions will be triggered according to the Event and Action Plan enclosed in **Appendix F**. The environmental monitoring results are tabulated below and displayed as graphical plots in **Appendix G**.

#### 3.1 AIR QUALITY

##### 3.1.1 Action and Limit Levels

According to the Baseline Monitoring Report for KT13, the Action and Limit Levels for 24-hour and 1-hour TSP are established as follows:

**Table 3-1-1 Air Quality Action and Limit Levels**

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
KT13(A1(a))	309	144	500	260
KT13(A2)	307	141	500	260

##### 3.1.2 Results

Results of air quality monitoring at the identified locations during the Reporting Period are summarized in **Tables 3-1-3-1** and **3-1-3-2** below. Details of 24-hour TSP data and graphical plots of trends of monitored parameters at key stations over the past four reporting periods are presented in **Appendices G** and **H**.

**Table 3-1-2-1 Summary of Air Quality Monitoring Results at KT13-A1(a)**

1-hour TSP ( $\mu\text{g}/\text{m}^3$ )						24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	
Date	Start Time	1 <sup>st</sup> hour	2 <sup>nd</sup> hour	3 <sup>rd</sup> hour	Average	Date	Results
31-Mar-09	14:30	109	114	112	112	30-Mar-09	14
7-Apr-09	14:30	72	78	76	75	6-Apr-09	20
16-Apr-09	13:00	68	71	73	71	15-Apr-09	94
22-Apr-09	09:00	94	100	97	97	21-Apr-09	43
Average (range)		89 (68-112)				Average (range) 43 (14-94)	

**Table 3-1-2-2 Summary of Air Quality Monitoring Results at KT13-A2**

1-hour TSP ( $\mu\text{g}/\text{m}^3$ )						24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	
Date	Start Time	1 <sup>st</sup> hour	2 <sup>nd</sup> hour	3 <sup>rd</sup> hour	Average	Date	Results
31-Mar-09	13:04	113	124	120	119	30-Mar-09	14
7-Apr-09	13:12	70	74	72	72	6-Apr-09	12
16-Apr-09	14:30	51	53	55	53	15-Apr-09	53
22-Apr-09	10:30	109	113	110	111	21-Apr-09	28
Average (range)		89 (51-124)				Average (range) 27 (12-53)	

##### 3.1.3 Discussion

As shown in **Tables 3-1-2-1** and **3-1-2-2**, 1-hour TSP and 24-hour TSP results fluctuated well below the Action Level. No exceedance of Action or Limit Levels was recorded during the Reporting Period. Neither Notification of Exceedance (hereinafter 'NOE') of air quality criteria or corrective action was required.

3.2 CONSTRUCTION NOISE

3.2.1 Action and Limit Levels

The Action and Limit Levels for construction noise are illustrated in **Table 3-2-1**.

**Table 3-2-1 Construction Noise Action and Limit Levels**

Time Period	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hours on normal weekdays	When one documented complaint is received	> 75* dB(A)

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

3.2.2 Results

Results of construction noise monitoring at the identified locations N1(a), N2(a) and N3 during the Reporting Period are summarized in **Tables 3-2-2-1 to 3-2-2-3**.

The baseline monitoring for N1(a) and N2(a) was performed on the 1st floor of the bedroom of 168-169 Kam Ho Road, Ma On Kong Village and No. 68 Ho Pui Village respectively. The impact noise monitoring, however, was performed on the ground floor of the same house due to denial of access to the 1st floor. The change of noise monitoring from 1st floor to ground floor will negate the need for a 3dB(A) façade correction but will not introduce any significant difference in detection and minimization of the of construction noise impacts, or alteration of the established A/L Levels. The ET has obtained the approval from EPD with consultation with the ER and IEC.

**Table 3-2-2-1 Summary of Construction Noise Monitoring Results – N1(a)**

Date	Start Time	1 <sup>st</sup> set Leq5	2 <sup>nd</sup> set Leq5	3 <sup>rd</sup> set Leq5	4 <sup>th</sup> set Leq5	5 <sup>th</sup> set Leq5	6 <sup>th</sup> set Leq5	Leq30
31-Mar-09	15:19	56.1	58.7	62.3	60.9	59.7	58.3	59.8
7-Apr-09	15:55	59.0	58.3	60.0	57.3	58.0	61.2	59.2
16-Apr-09	12:30	55.2	53.8	54.2	55.3	52.8	53.0	54.2
22-Apr-09	11:15	55.3	56.2	58.7	60.1	58.4	55.7	57.8
<b>Limit Level</b>								<b>75 dB(A)</b>

**Table 3-2-2-2 Summary of Construction Noise Monitoring Results – N2(a)**

Date	Start Time	1 <sup>st</sup> set Leq5	2 <sup>nd</sup> set Leq5	3 <sup>rd</sup> set Leq5	4 <sup>th</sup> set Leq5	5 <sup>th</sup> set Leq5	6 <sup>th</sup> set Leq5	Leq30
31-Mar-09	14:31	45.5	45.9	45.7	44.2	45.9	46.7	45.7
7-Apr-09	13:15	54.6	50.3	49.0	48.0	46.3	47.0	50.2
16-Apr-09	14:35	52.4	51.2	50.5	49.7	48.2	48.0	50.3
22-Apr-09	10:30	48.3	48.9	50.1	51.3	52.9	50.7	50.6
<b>Limit Level</b>								<b>75 dB(A)</b>

**Table 3-2-2-3 Summary of Construction Noise Monitoring Results – N3**

Date	Start Time	1 <sup>st</sup> set Leq5	2 <sup>nd</sup> set Leq5	3 <sup>rd</sup> set Leq5	4 <sup>th</sup> set Leq5	5 <sup>th</sup> set Leq5	6 <sup>th</sup> set Leq5	Leq30
31-Mar-09	13:04	54.9	54.2	53.7	55.2	56.7	58.3	55.8
7-Apr-09	14:25	58.0	53.5	59.0	55.5	54.3	58.4	56.9
16-Apr-09	13:05	60.4	59.2	61.5	60.3	58.2	59.5	60.0
22-Apr-09	09:00	58.2	56.7	56.3	55.4	52.1	54.8	56.0
<b>Limit Level</b>								<b>75 dB(A)</b>

3.2.3 Discussion

As shown in **Tables 3-2-2-1, Table 3-2-2-2 and Table 3-2-2-3**, all the construction noise results fluctuated well below the Limit Level. No exceedance of Limit Level or documented

construction complaint was recorded during the Reporting Period. No NOE or corrective action was therefore required.

### 3.3 WATER QUALITY

#### 3.3.1 Action and Limit Levels

The Action and Limit Levels for water quality are illustrated in **Table 3-3-1**.

**Table 3-3-1 Action and Limit Levels for Water Quality Monitoring**

Monitoring Location	DO (mg/L)		Turbidity (NTU)		pH		SS (mg/L)		Ammonia (µg/L)		Zinc (µg/L)	
	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
W1 (Upstream) Control Station	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W2 (Downstream) Impact Station	1.04	1.00	36.81	37.16	8.65	8.69	79.0	86.2	16.85	16.89	234.95	266.19
W3(a) (Upstream) Control Station	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W4 (Upstream) Control Station	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W5 (Upstream) Control Station	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W6 (Downstream) Impact Station	0.93	0.91	27.88	30.02	8.7	8.7	73.40	78.68	51.62	54.56	191.90	201.58

Notes: # Act as Control Station for the Impact Water Quality Monitoring.

\* Alternative Action Level of the Turbidity, pH, Suspended Solid, Ammonia Nitrogen and Zinc are 120% of upstream control station of same day.

\*\* Alternative Action Level of the Turbidity, pH, Suspended Solid, Ammonia Nitrogen and Zinc are 130% of upstream control station of same day.

#### 3.3.2 Results

Water quality monitoring results measured at W1, W2, W3(a), W4, W5 and W6 during the Reporting Period are presented in tabulation and graphical plots in **Appendix G**.

#### 3.3.2 Discussion

In this reporting period, a total of seven (7) Limit Level exceedances were registered at impact station W6 as shown in **Table 3-3-2**.

**Table 3-3-2 Summary of Water Quality Exceedances**

Location	Exceedance	DO	Turbidity	pH	SS	NH <sub>4</sub> <sup>+</sup> -N	Zn	Total
W6	Action Level	0	0	0	0	0	0	0
	Limit Level	0	6	0	1	0	0	7
Total	Action Level	0	0	0	0	0	0	0
	Limit Level	0	6	0	1	0	0	7

#### DO, NH<sub>4</sub><sup>+</sup>-N and Zinc

No exceedances of Action and Limit Levels of DO, NH<sub>4</sub><sup>+</sup>-N and Zinc were recorded during the Reporting Period. No Notifications of Environmental Quality Limit Exceedances (NOE) or corrective actions were therefore required for these parameters.

#### pH

pH fluctuated within a range from 6.8 to 7.1, which were all below the Action and Limit Levels of 8.65 and 8.69 for W2 and 8.7 for W6. Proposal for adopting the pH range of 6 to 9 in place of the existing Action and Limit Level has been approved by the ER and IEC. It is at the stage of submitting to EPD for formal approval.



### Turbidity and SS

There were six Limit Level exceedances of turbidity and one Limit Level exceedance of SS recorded in the reporting period. NOEs were issued upon confirmation of the monitoring results, and investigation was conducted upon receipt of the information of construction activities and implementation status of mitigation measures provided by CRBC. It was advised that construction works were only conducted at upstream area near station W2. It was also noted that measurements at the intermediate stations W3, W4 and W5 were far lower than the exceedance level at W6. Therefore it was concluded that the exceedances at station W6 were not likely to be related to works at upstream near W2. The ET's investigations are being reviewed by the ER and IEC.

## 3.4 ECOLOGY

### 3.4.1 Action and Limit Levels

The Action and Limit Levels for Construction Ecology Monitoring are shown in **Table 3-4-1** to according with the EM&A manual.

**Table 3-4-1 Ecological Action and Limit Levels**

Parameters	Action Level	Limit Level
Decrease in number of breeding egrets since previous year	>20%	> 40%

### 3.4.2 Results

Seventy eight individuals of birds from 21 species were recorded during the survey for the present monthly monitoring on 18 April 2009. Among the birds recorded, 4 individuals of wetland dependent birds (from 1 species) were recorded.

It is stated in the EP and EM&A Manual for KT13 that the monitoring of the Ho Pui egretty shall be carried out during the period from 1st March to 31st August. If no egret nest is found at the egretty during the period from 1st March to 31st May, the Permit Holder can start the construction works within 100m of the ecological buffer area upon obtaining the Director's approval until February in the next year. If egret nests are found during the period from 1st March to 31st August, no construction shall take place within 100m of the ecological buffer area before 1st October.

In addition, it is required in the EM&A Manual that biweekly monitoring of the Ho Pui egretty is required for the period from 1st March to end of May. Should no egret nest be found at the Ho Pui egretty by the end of May, monitoring frequency from June to August can be reduced to monthly.

Biweekly egretty surveys on Ho Pui Egretty were conducted on 18 and 25 April 2009. No nest was found at the Ho Pui egretty during the present survey. Even though, as there had been no nest recorded at Ho Pui egretty in 2008, the Action/Limit Level for ecology is in compliance. Ma On Kong egretty was also surveyed on 18 and 25 April 2009 to provide reference information on the breeding. No nest was found at Ma On Kong egretty neither. As there was no egret nest in either egretty, flight line survey on 18 and 25 April did not record any egret flight line.

During the walk through survey, no adverse impacts on habitats outside the boundary of the works area including the Conservation Area and the location of Ho Pui Egretty were found. Photo records of trees are scheduled in every six months and are therefore not required in this month. Ecological impact monitoring results are presented in the **Table 5-5**.

**Table 5-5 Summary of KT13 Ecology Impact Monitoring Bird Survey**

Scientific Name	Common Name	Reported in the project profile	Abundance recorded in the present survey (18 Apr 09)	Habitat utilized
<b>Birds</b>				
<b>Little Egret</b>	<i>Egretta garzetta</i>	✓	<b>4</b>	<b>River/stream</b>
<b>Cattle Egret</b>	<i>Bubulcus ibis</i>	✓		
<b>Chinese Pond Heron</b>	<i>Ardeola bacchus</i>	✓		
<b>Crested Serpent Eagle</b>	<i>Spilornis cheela</i>	✓		
<b>Bonelli's Eagle</b>	<i>Hieraaetus fasciatus</i>	✓		
<b>Eurasian Hobby</b>	<i>Falco subbuteo</i>	✓		
<b>White-breasted Waterhen</b>	<i>Amaunornis phoenicurus</i>	✓		
<b>Spotted Dove</b>	<i>Streptopelia chinensis</i>	✓	6	Bare ground, woodland
<b>Common Koel</b>	<i>Eudynamis scolopacea</i>	✓	2	Woodland
<b>Greater Coucal</b>	<i>Centropus sinensis</i>	✓	2	Woodland
<b>Little Swift</b>	<i>Apus affinis</i>	✓		
<b>White-Throated Kingfisher</b>	<i>Halcyon smyrnensis</i>	✓		
<b>Barn Swallow</b>	<i>Hirundo rustica</i>	✓	6	Bare ground
<b>Red-Whiskered Bulbul</b>	<i>Pycnonotus jocosus</i>	✓	5	Woodland
<b>Chinese Bulbul</b>	<i>Pycnonotus sinensis</i>	✓	3	Woodland
<b>Long-Tailed Shrike</b>	<i>Lanius schach</i>	✓	1	Bare ground
<b>Oriental Magpie Robin</b>	<i>Copsychus saularis</i>	✓	3	Bare ground, low lying grassland
<b>Masked Laughingthrush</b>	<i>Garrulax perspicillatus</i>	✓	6	Bare ground, woodland
<b>Yellow-Bellied Prinia</b>	<i>Prinia flaviventris</i>	✓	4	Low lying grassland
<b>Common Tailorbird</b>	<i>Orthotomus sutorius</i>	✓		
<b>Great Tit</b>	<i>Parus major</i>	✓	2	woodland
<b>Japanese White-Eye</b>	<i>Zosterops japonicus</i>	✓		
<b>White-Rumped Munia</b>	<i>Lonchura striata</i>	✓		
<b>Eurasian Tree Sparrow</b>	<i>Passer montanus</i>	✓	7	Bare ground, agricultural land
<b>Black-Collared Starling</b>	<i>Sturnus nigricollis</i>	✓	6	Bare ground, low lying woodland
<b>Common Myna</b>	<i>Acridotheres tristis</i>	✓		
<b>Crested Myna</b>	<i>Acridotheres cristatellus</i>	✓	5	Bare ground
<b>Black Kite</b>	<i>Milvus migrans</i>	\		
<b>White Wagtail</b>	<i>Motacilla alba</i>	\	7	River/stream, bare ground
<b>Plain Prinia</b>	<i>Prinia inornata</i>	\	1	Low lying grassland
<b>Blue Magpie</b>	<i>Urocissa eythrorhyncha</i>	\	2	Woodland
<b>Fork-tailed Sunbird</b>	<i>Aethopyga christinae</i>	\	1	Woodland
<b>Indian Cuckoo</b>	<i>Cuculus micropterus</i>	\		
<b>Common Mapie</b>	<i>Pica pica</i>	\		
<b>Green Sandpiper</b>	<i>Tringa ochropus</i>	\		
<b>Yellow Wagtail</b>	<i>Motacilla flava</i>	\		
<b>Common Sandpiper</b>	<i>Actitis hypoleucos</i>	\		
<b>Common Blackbird</b>	<i>Turdus merula</i>	\		
<b>White shoulder Starling</b>	<i>Sturnus sinensis</i>	\	3	Woodland
<b>Wood Sandpiper</b>	<i>Tringa glareola</i>	\	2	River/stream
<b>Species Number</b>		27	<b>21</b>	
<b>Individual Number</b>		NA	<b>78</b>	

\*Wetland dependent species recorded with abundance during the baseline study with the names bolded

3.5 WASTE MANAGEMENT, CULTURAL HERITAGE AND LANDSCAPE & VISUAL

3.5.1 Waste Management

In order to comply with the waste management requirements, CRBC has been:

- (a) Assigned, since 9 Jan 2008, a Billing Account (account number 7006524) under the **Waste Disposal (Charges for Disposal of Construction Waste) Regulation**;
- (b) Issued a Discharge License No. 1U461/1 under Section 20 of the **Water Pollution Control Ordinance**;
- (c) Registered as a Chemical Waste Producer under the **Waste Disposal (Chemical Waste) (General) Regulation** (the Waste Producer Number assigned is WPN: 5611-531-C3124-28 dated 2 May 08); and
- (d) Granted by the Environmental Protection Department a Permit Issued under the **Dumping at Sea Ordinance** (Permit no. EP/I4D/08-095, dated 18 September 2008, permit validity period of six months from 18 September 2008 to 17 March 2009) for 18,469 m<sup>3</sup> sediment requiring Type 1 – open sea disposal at East Sha Chau Contaminated Mud Disposal Site – Pit IV b to be capped as directed by the management Team of the CEDD.

3.5.2 Cultural Heritage

The Action and Limit Levels for Cultural Heritage are shown in **Table 3-5-2** according to the EM&A Manual.

**Table 3-5-2 Cultural Heritage Resources Action and Limit Levels**

Action Level	Limit Level
When damage or structural instability is first detected	Signs of deterioration and structural instability continues on subsequent visits after Action Level is triggered

During the Reporting Period, there was no construction work conducted within 100m area from the cultural heritage site within KT13, and therefore no cultural heritage monitoring was required in accordance with the approved methodology.

3.5.3 Landscape and Visual

Landscape and visual inspection was conducted on 6 and 20 April 2009. Current situation of the identified landscape resources remained the same as those of the baseline, except minor changes of river/stream/fish pond landscape character area at LR1, LR2.1, LR2.2, LCA1, LCA3 and LCA4 due to site clearance, soil stockpiling and preparation work within KT13. Updated landscape and visual status is presented in **Appendix I**.

4 NON-COMPLIANCE, COMPLAINT, NOTIFICATION OF SUMMONS, SUCCESSFUL PROSECUTION AND OTHERS

4.1 NON-COMPLIANCE

Exceedance of environmental quality criteria has been discussed in **Section 3.1 to 3.5**. No other non-compliance or deficiency was identified during regular site inspection and environmental audit. No associated remedial action was necessary.

4.2 ENVIRONMENTAL COMPLAINT

No written or verbal complaint was received for each environmental issue during the Reporting Period. No associated remedial action was necessary.

4.3 NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

No notifications of summons and successful prosecutions were recorded during the Reporting Period. No associated remedial action was necessary.

4.4 OTHERS

4.4.1 Waste Management Status

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 and sediment

Waste generated, re-used, recycled and disposed of during the Reporting Period is shown in **Appendix J: Monthly Summary Waste Flow Table**. No Type I or Type II excavated soil were recorded in this reporting period.

4.4.2 Site Inspection and Environmental Audit

In this reporting period, five occasions of weekly environmental site inspection and audit were conducted during the Reporting Period jointly by the ER, EO and ET. No adverse environmental impacts were registered, indicating that the mitigation measures implemented were effective and sufficient for the construction activities undertaken. Minor deficiencies found in the site inspection and audit were in general rectified within the specified deadlines. Findings of the site inspection and environmental audit are summarized below.

**Table 4-4-1 Summary of Findings of Site Inspection and Environmental Audit**

Date	Findings / Deficiencies	Follow-Up Status
26 March 2009	Exposed slope next to the existing stream is observed at the upper section of KT13. It is recommended to place sufficient sandbags as a barrier to prevent runoff of muddy water into the stream.	Recommendations based on the observation on 17 March 2009 were followed.
31 March 2009	No adverse environmental impacts were observed during the site inspection	Recommendations based on the observation on 26 March 2009 were followed.
8 April 2009	Construction waste was observed scattered within the site. Good site practice to avoid excessive accumulation of the waste is recommended.	Recommendations based on the observation on 31 March 2009 were followed.
16 April 2009	Debris was observed in the existing stream. The Contractor shall pay more attention to clean up the waste regularly to prevent blockage of the stream.	Recommendations based on the observation on 8 April 2009 were followed.
23 April 2009	At Channel KT13, the tarpaulin sheets on the open slope were worn, the Contractor is reminder to check the conditions of the covering sheets and replace them more frequently if necessary, especially during wet season, to avoid excessive surface run and potential water pollution.	Recommendations based on the observation on 16 April 2009 were followed.

#### 4.4.3 Works to be Undertaken Next Month

Works to be undertaken next month are shown in the construction program enclosed in **Appendix B**. The construction activities undertaken in the Reporting Period including tree survey, environmental impact monitoring, structural conditional survey, excavation of channel formation, construction of channel structure, backfilling and installation of type 2 railing will also be continued in the forth-coming month. No new activity would be conducted.

#### 4.4.4 Future Key Issues and Mitigation Measures for the Forth-Coming Month

As wet season has approached, water quality mitigation measures to avoid ingress of turbidity and other water quality pollutants via site surface water runoff into the river within KT13 should be properly maintained or improved, as appropriate.

In addition, special attention should also be paid to construction noise, water quality, ecology and other environmental issues identified in the EM&A Manual. Mitigation measures recommended in the EIA and summarized in Mitigation Measure Implementation Schedule (EMIS) should be fully implemented.

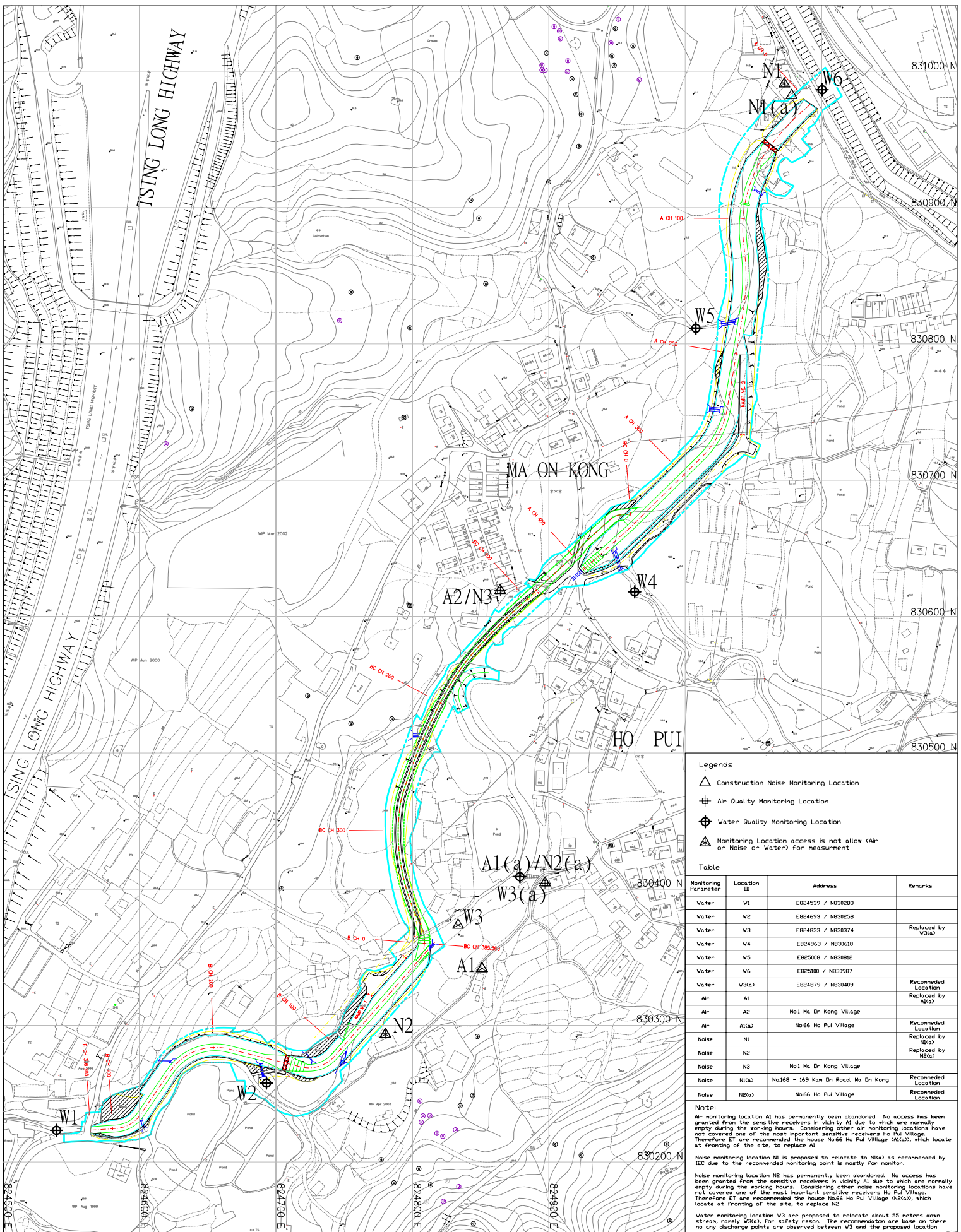
5 CONCLUSIONS AND RECOMMENDATIONS

- i) This is the 7<sup>th</sup> monthly EM&A report for Channel KT13, covering the construction period from 26 March 2009 to 25 April 2009 (the Reporting Period).
- ii) Monitoring results of the Reporting Period demonstrated no exceedance of environmental quality criteria for air quality, construction noise and ecology.
- iii) However, a total of seven exceedances of water quality monitoring due to turbidity and SS were recorded at a downstream station W6 during the Reporting Period. It was advised that the construction activities were only conducted at upstream near Station W2. It was, therefore, concluded that the exceedances were not related to works under the project since the readings at the intermediate stations W3, W4 and W5 were significantly lower than the discharge point at W6.
- iv) Landscape inspection was conducted on 6 and 20 April 2009. No significant changes were observed for identified landscape resources and visual sensitive receivers, except for minor changes due to channel excavation, site clearance and preparation work at the identified landscape resources including LR1, LR2.1, LR2.2, LCA1, LCA3 and LCA4.
- v) No documented complaints, notifications of summons and successful prosecutions were received during the Reporting Period. No adverse environmental impacts were observed during the weekly site inspection and environmental audit of the Reporting Period, which suggested that the implemented mitigation measures for air quality, construction noise and ecology were effective. Minor deficiencies found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.
- vi) It is recommended that water quality mitigation measures stipulated in the EIA and summarized in mitigation measures implementation schedule in the EM&A Manual, including containment structure such as temporary earth bunds, sand bags, sheet pile barriers or other similar techniques, be fully implemented.
- vii) As wet season has approached, it is reminded that water quality mitigation measures to avoid ingress of turbidity and other water quality pollutants via site surface water runoff into the river within KT13 should be properly maintained or improved, as appropriate.
- viii) Special attention should also be paid to construction noise and other environmental issues identified in the EM&A Manual. Mitigation measures recommended in the EIA and summarized in Mitigation Measure Implementation Schedule should be fully implemented.
- ix) Proposal for adopting the pH range of 6 to 9 pH value in place of the existing pH Action and Limit Level has been approved by ER and IEC. Submission to EPD for formal approval is in process.

**END OF TEXT**

**Appendix A**  
**Location Plan and**  
**Environmental Monitoring Locations**  
**Under the Project**





- Legends**
- △ Construction Noise Monitoring Location
  - Air Quality Monitoring Location
  - Water Quality Monitoring Location
  - △ Monitoring Location access is not allow (Air or Noise or Water) for measurement

**Table**

Monitoring Parameter	Location ID	Address	Remarks
Water	W1	E824539 / N830283	
Water	W2	E824693 / N830258	
Water	W3	E824833 / N830374	Replaced by W3(a)
Water	W4	E824963 / N830618	
Water	W5	E825008 / N830812	
Water	W6	E825100 / N830987	
Water	W3(a)	E824879 / N830409	Recommended Location
Air	A1		Replaced by A1(a)
Air	A2	No.1 Ma Dn Kong Village	
Air	A1(a)	No.66 Ho Pul Village	Recommended Location
Noise	N1		Replaced by N1(a)
Noise	N2		Replaced by N2(a)
Noise	N3	No.1 Ma Dn Kong Village	
Noise	N1(a)	No.168 - 169 Kan Dn Road, Ma Dn Kong	Recommended Location
Noise	N2(a)	No.66 Ho Pul Village	Recommended Location

**Note:**

Air monitoring location A1 has permanently been abandoned. No access has been granted from the sensitive receivers in vicinity A1 due to which are normally empty during the working hours. Considering other air monitoring locations have not covered one of the most important sensitive receivers Ho Pul Village. Therefore ET are recommended the house No.66 Ho Pul Village (A1(a)), which locate at fronting of the site, to replace A1

Noise monitoring location N1 is proposed to relocate to N1(a) as recommended by IEC due to the recommended monitoring point is mostly for monitor.

Noise monitoring location N2 has permanently been abandoned. No access has been granted from the sensitive receivers in vicinity N2 due to which are normally empty during the working hours. Considering other noise monitoring locations have not covered one of the most important sensitive receivers Ho Pul Village. Therefore ET are recommended the house No.66 Ho Pul Village (N2(a)), which locate at fronting of the site, to replace N2

Water monitoring location W3 are proposed to relocate about 55 meters down stream, namely W3(a), for safety reason. The recommendation are base on there no any discharge points are observed between W3 and the proposed location

Drawing:

Air, Noise and Stream Water Monitoring Location at KT-13








Contract No. IC/2007/17-  
 Bridge Improvement Works in Cheung Po  
 Koi, Yuen, Tuen King, Sai Tsuen and San  
 San Tsuen of Tuen Long District and Sewerage  
 at Tseung Tsuen Tsuen, Tuen Mun





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NOTES:  
1. GRID LINES ARE HONG KONG METRIC GRID 1980.

- LEGEND:
-  MA ON KONG AND HO PUT ECRETIES
  -  PROPOSED COMPENSATORY TREE PLANTING
  -  CONSERVATION AREA DENOTED ON OUTLINE ZONING PLAN
  -  WORKS BOUNDARY OF CHANNEL XT13
  -  ECOLOGY MONITORING AREAS

Revision	Date	Description			Initial
		Designed	Checked	Drawn	
Initial		MC	KIL	YLL	KIL
Date	09/05	09/05	09/05	09/05	09/05

Approved

AGREEMENT NO. CE 67/98

Contract title  
YUEN LONG, KAM TIN,  
NGAU TAM MEI AND TIN SHUI WAI  
DRAINAGE IMPROVEMENT, STAGE 1,  
PHASE 2B - KAM TIN

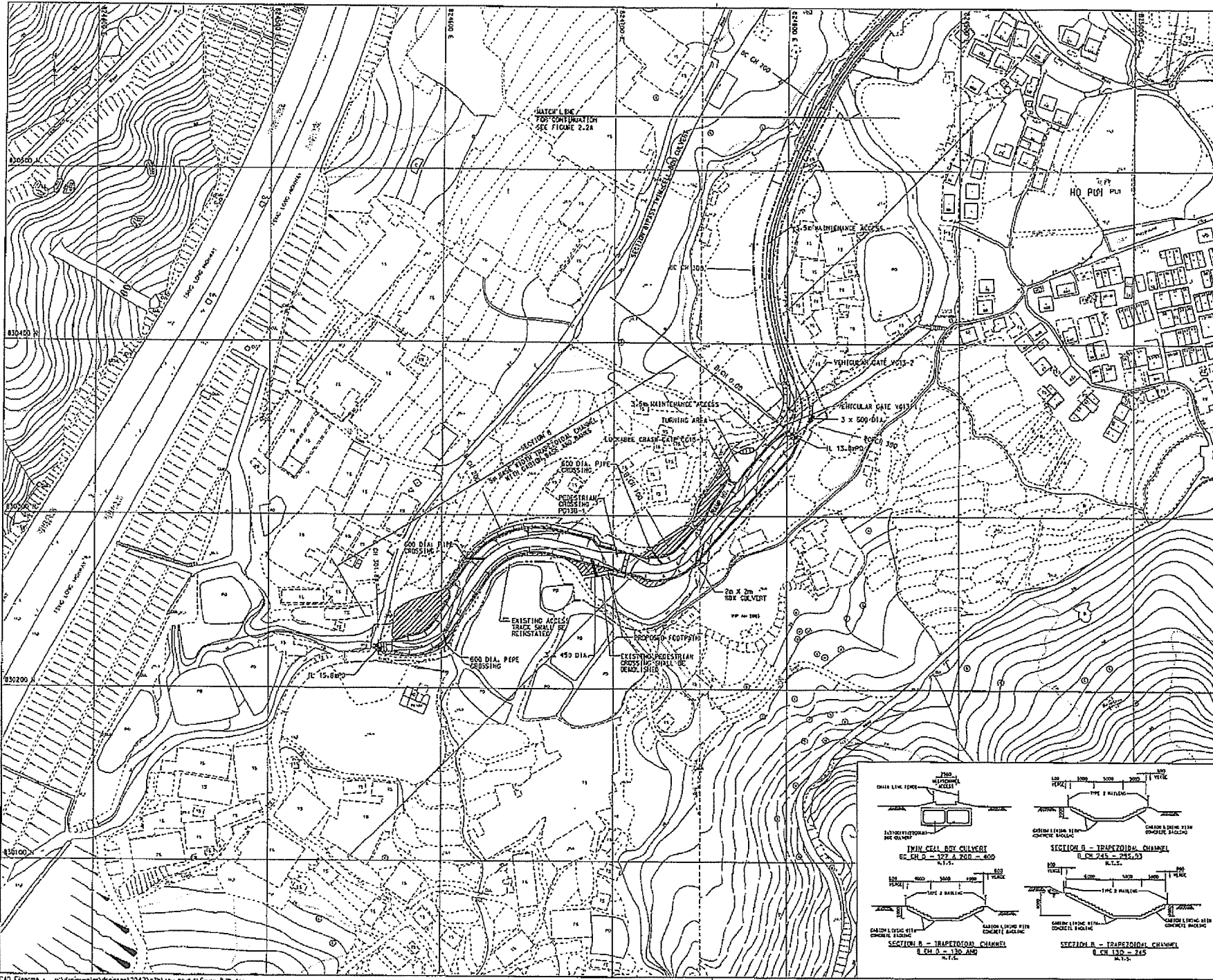
Drawing title  
ECOLOGY MONITORING AREAS  
RECOMMENDED FOR  
CONSTRUCTION PHASE AND  
OPERATION PHASE

Drawing no.	Scale
Figure 6.1	1:2000 A1 1:4000 A3

 香港特別行政區政府渠務署  
THE GOVERNMENT OF THE  
HONG KONG  
SPECIAL ADMINISTRATIVE REGION  
DRAINAGE SERVICES DEPARTMENT

 BLACK & VEATCH HONG KONG LIMITED  
黑域工程顧問有限公司





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- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - GRID LINES ARE HONG KONG METRIC GRID 1960.
  - TYPE 2 RAILING WITH DEBRIS TRAP BAR AND BENCH MARK PILES SHALL BE PROVIDED AT BOTH SIDES OF THE CHANNEL BANKS.

- LEGEND:
- SITE BOUNDARY
  - PROPOSED CHANNEL
  - PROPOSED SLOPE
  - AREA TO BE FILLED TO ADJACENT GROUND LEVEL
  - 1:1 SLOPE
  - PROPOSED RETAINING WALL

C	05/05	AMENDMENT TO	BY-PASS CULVERT	K.I.L.
B	10/05	MINOR AMENDMENT TO	CHANNEL LAYOUT	K.I.L.
A	05/05	MINOR AMENDMENTS TO	SITE BOUNDARY	K.I.L.

REVISION	DATE	DESCRIPTION	BY	CHECKED	DATE
1					
2					
3					
4					

AGREEMENT NO. CE 62/93

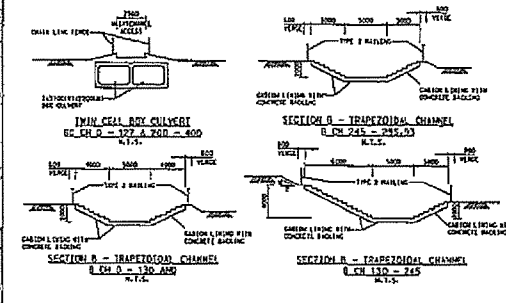
Contract Title:

YUEN LONG, KAM TIN, NGAU TAM MEI AND TIN SHUI WAI DRAINAGE IMPROVEMENT, STAGE 1, PHASE 2B - KAM TIN

MA ON KONG CHANNEL KT13 PROPOSED LAYOUT PLAN (SHEET 2 OF 2)

FIGURE 1.3b

Scale: 1:2000 A1, 1:2000 A3



P&ID Date: 16 APR 2006

## **Appendix B**

### **Construction Program**

Monthly Rolling Programme - May 2009

ID	Task Name	Duration	Start	Complete	2009/5					
					26/4	3/5	10/5	17/5	24/5	31/5
1	<b>Section I (Channel KT12 - Cheung Po Tsuen)</b>	23 days	2009/5/4	2009/5/30						
2	Regular Environmental Impact Monitoring	23 days	2009/5/4	2009/5/30						
3	Regular Tree Survey	23 days	2009/5/4	2009/5/30						
4	Regular Structural Condition Survey	23 days	2009/5/4	2009/5/30						
5	Compensatory Planting	23 days	2009/5/4	2009/5/30						
6	Hydroseeding	23 days	2009/5/4	2009/5/30						
7										
8	<b>Section II (Channel KT13)</b>	23 days	2009/5/4	2009/5/30						
9	Regular Environmental Impact Monitoring	23 days	2009/5/4	2009/5/30						
10	Regular Tree Survey & Protection	23 days	2009/5/4	2009/5/30						
11	Regular Structural Condition Survey	23 days	2009/5/4	2009/5/30						
12	<b>Section A</b>	23 days	2009/5/4	2009/5/30						
13	Excavation to channel formation & laying of rock fill material (A CH0.00 - A CH402.00)	23 days	2009/5/4	2009/5/30						
14	Bay A1 (A CH00.00 - A CH09.00) - RC2	5 days	2009/5/4	2009/5/8						
15	Bay A2 (A CH09.00 - A CH18.00) - RC2	5 days	2009/5/9	2009/5/14						
16	Bay A3 (A CH18.00 - A CH26.00) - RC2	5 days	2009/5/15	2009/5/20						
17	Bay A4 (A CH26.00 - A CH34.00) - Transition	5 days	2009/5/21	2009/5/26						
18	Bay A5 (A CH34.00 - A CH41.00) - Transition	3 days	2009/5/27	2009/5/30						
19	<b>Construction of channel structure (RC2, Transition, and TG2)</b>	18 days	2009/5/9	2009/5/30						
20	Bay A1 (A CH00.00 - A CH09.00) - RC2	8 days	2009/5/9	2009/5/18						
21	Bay A2 (A CH09.00 - A CH18.00) - RC2	8 days	2009/5/19	2009/5/27						
22	Bay A3 (A CH18.00 - A CH26.00) - RC2	2 days	2009/5/29	2009/5/30						
23	<b>Section B</b>	23 days	2009/5/4	2009/5/30						
24	Excavation for channel formation & laying of rock fill material (B CH0.00 - B CH316.00)	23 days	2009/5/4	2009/5/30						
25	Bay B15 (B CH144.00 - B CH147.00) - Transition & Pedestrian Crossing	2 days	2009/5/4	2009/5/5						
26	Bay B14 (B CH137.00 - B CH144.00) - Transition	2 days	2009/5/6	2009/5/7						
27	Bay B13 (B CH129.00 - B CH137.00) - Transition	2 days	2009/5/8	2009/5/9						
28	Bay B9 (B CH80.00 - B CH94.00) - TG3	2 days	2009/5/11	2009/5/12						
29	Bay B8 (B CH68.00 - B CH80.00) - TG3	2 days	2009/5/13	2009/5/14						
30	Bay B7 (B CH57.00 - B CH68.00) - TG3	2 days	2009/5/15	2009/5/16						
31	Bay B6 (B CH46.00 - B CH57.00) - TG3	2 days	2009/5/18	2009/5/19						
32	Bay B5 (B CH34.00 - B CH46.00) - TG3	3 days	2009/5/20	2009/5/22						
33	Bay B4 (B CH24.00 - B CH34.00) - TG3	3 days	2009/5/23	2009/5/26						
34	Bay B3 (B CH14.00 - B CH24.00) - TG3	3 days	2009/5/27	2009/5/30						
35	<b>Construction of channel structure (Transition, TG3, TG4, TG5, and TG8)</b>	23 days	2009/5/4	2009/5/30						
36	Bay B15 (B CH144.00 - B CH147.00) - Transition & Pedestrian Crossing	4 days	2009/5/4	2009/5/7						
37	Bay B14 (B CH137.00 - B CH144.00) - Transition	4 days	2009/5/8	2009/5/12						
38	Bay B13 (B CH129.00 - B CH137.00) - Transition	4 days	2009/5/13	2009/5/16						
39	Bay B9 (B CH80.00 - B CH94.00) - TG3	4 days	2009/5/18	2009/5/21						

Task		Progress		Summary		External Tasks		Split	
Split		Milestone		Project Summary		External MileTask			

Monthly Rolling Programme - May 2009

ID	Task Name	Duration	Start	Complete	2009/5					
					26/4	3/5	10/5	17/5	24/5	31/5
40	Bay B8 (B CH68.00 - B CH80.00) - TG3	4 days	2009/5/22	2009/5/26						
41	Bay B7 (B CH57.00 - B CH68.00) - TG3	3 days	2009/5/27	2009/5/30						
42	<b>Backfilling along the sides of channel &amp; laying of underground drain</b>	<b>4 days</b>	<b>2009/5/4</b>	<b>2009/5/7</b>						
43	Bay B30 (B CH302.00 - B CH312.00) - Transition	4 days	2009/5/4	2009/5/7						
44	<b>Installation of Type 2 railing on top of channel wall</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
45	Bay B28 (B CH282.00 - B CH294.00) - TG4	3 days	2009/5/4	2009/5/6						
46	Bay B27 (B CH270.00 - B CH282.00) - TG4	3 days	2009/5/7	2009/5/9						
47	Bay B26 (B CH260.00 - B CH270.00) - TG4	3 days	2009/5/11	2009/5/13						
48	Bay B25 (B CH248.00 - B CH260.00) - TG5	3 days	2009/5/14	2009/5/16						
49	Bay B29 (B CH294.00 - B CH302.00) - Transition	3 days	2009/5/18	2009/5/20						
50	Bay B30 (B CH302.00 - B CH312.00) - Transition	2 days	2009/5/21	2009/5/22						
51	Bay B19 (B CH174.00 - B CH188.00) - TG8	2 days	2009/5/23	2009/5/25						
52	Bay B18 (B CH162.00 - B CH174.00) - TG8	2 days	2009/5/26	2009/5/27						
53	Bay B17 (B CH154.00 - B CH162.00) - Transition	2 days	2009/5/29	2009/5/30						
54										
55	<b>Section III (Channel KT14A - Tin Sam Tsuen)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
56	Regular Environmental Impact Monitoring	23 days	2009/5/4	2009/5/30						
57	Regular Tree Survey	23 days	2009/5/4	2009/5/30						
58	Regular Structural Condition Survey	23 days	2009/5/4	2009/5/30						
59	<b>Construction of rectangular channel 2.5m(W) x 2.8m(H) Type RC1 (CH0.00 - CH150.00)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
60	<b>Excavation to channel formation (CH0.00 - CH150.00)</b>	<b>14 days</b>	<b>2009/5/4</b>	<b>2009/5/19</b>						
61	Bay A13 (CH119.00 - CH134.00)	2 days	2009/5/4	2009/5/5						
62	Bay A14 (CH134.00 - CH145.00)	2 days	2009/5/6	2009/5/7						
63	Bay A14-1 (CH134.00 - CH145.00)	4 days	2009/5/15	2009/5/19						
64	<b>Construction of channel structure (CH0.00 - CH150.00)</b>	<b>19 days</b>	<b>2009/5/4</b>	<b>2009/5/23</b>						
65	Bay A12 (CH113.00 - CH119.00)	3 days	2009/5/4	2009/5/6						
66	Bay A13 (CH119.00 - CH134.00)	5 days	2009/5/7	2009/5/12						
67	Bay A14 (CH134.00 - CH145.00)	5 days	2009/5/13	2009/5/18						
68	Bay A14-1 (CH134.00 - CH145.00)	5 days	2009/5/20	2009/5/25						
69	<b>Laying of gabion block inside the channel structure</b>	<b>12 days</b>	<b>2009/5/11</b>	<b>2009/5/23</b>						
70	Bay A7 (CH57.00 - CH65.00)	3 days	2009/5/11	2009/5/13						
71	Bay A8 (CH65.00 - CH77.00)	3 days	2009/5/14	2009/5/16						
72	Bay A9 (CH77.00 - CH89.00)	3 days	2009/5/18	2009/5/20						
73	Bay A10 (CH89.00 - CH101.00)	3 days	2009/5/21	2009/5/23						
74	<b>Construction of catchpit / manhole / drain pipe along the sides of channel</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
75	Bay A1 (CH00.00 - CH12.00)	4 days	2009/5/4	2009/5/7						
76	Bay A2 (CH12.00 - CH24.00)	4 days	2009/5/8	2009/5/12						
77	Bay A3 (CH24.00 - CH36.00)	4 days	2009/5/13	2009/5/16						
78	Bay A4 (CH36.00 - CH48.00)	4 days	2009/5/18	2009/5/21						

Task		Progress		Summary		External Tasks		Split	
Split		Milestone		Project Summary		External MileTask			

Monthly Rolling Programme - May 2009

ID	Task Name	Duration	Start	Complete	2009/5					
					26/4	3/5	10/5	17/5	24/5	31/5
79	Bay A5 (CH48.00 - CH53.00)	4 days	2009/5/22	2009/5/26						
80	Bay A7 (CH57.00 - CH65.00)	3 days	2009/5/27	2009/5/30						
81	<b>Installation of Type 2 railing on top of rectangular channel (CH0.00 - CH150.00)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
82	Bay A11 (CH101.00 - CH113.00)	3 days	2009/5/4	2009/5/6						
83	Bay A12 (CH113.00 - CH119.00)	3 days	2009/5/19	2009/5/21						
84	Bay A13 (CH119.00 - CH134.00)	2 days	2009/5/26	2009/5/27						
85	Bay A14 (CH134.00 - CH145.00)	2 days	2009/5/29	2009/5/30						
86										
87	<b>Section IV (Channel KT14B &amp; 14C and Portion 8A &amp; 8B)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
88	Regular Environmental Impact Monitoring	23 days	2009/5/4	2009/5/30						
89	Regular Tree Survey & Protection	23 days	2009/5/4	2009/5/30						
90	Regular Structural Condition Survey	23 days	2009/5/4	2009/5/30						
91	<b>Portion 8B (CP1 to CP9) - Kam Sheung Road (1050 Dia. Pipe)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
92	Manhole MH2 - Manhole MH3	12 days	2009/5/4	2009/5/16						
93	Manhole MH1 - Manhole MH2	11 days	2009/5/18	2009/5/30						
94	<b>Channel 14B</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
95	<b>Construction of rectangular channel Type RC1 (CH0.00 - CH335.00)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
96	<b>Excavation to channel formation &amp; Laying rock fill material (CH0.00 - CH335.00)</b>	<b>21 days</b>	<b>2009/5/4</b>	<b>2009/5/27</b>						
97	Bay 31 (CH303.00 - CH309.00)	7 days	2009/5/4	2009/5/11						
98	Bay 31A (CH309.00 - CH316.00)	7 days	2009/5/12	2009/5/19						
99	Bay 32 (CH316.00 - CH328.00)	7 days	2009/5/20	2009/5/27						
100	<b>Construction of channel structure (CH0.00 - CH335.00)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
101	Bay 30 (CH299.00 - CH303.00) & Pedestrian Crossing PC14B-1	5 days	2009/5/4	2009/5/8						
102	Bay 31 (CH303.00 - CH309.00)	5 days	2009/5/12	2009/5/16						
103	Bay 31A (CH309.00 - CH316.00)	5 days	2009/5/20	2009/5/25						
104	Bay 32 (CH316.00 - CH328.00)	2 days	2009/5/29	2009/5/30						
105	<b>Laying of gabion block inside the channel structure</b>	<b>17 days</b>	<b>2009/5/11</b>	<b>2009/5/30</b>						
106	Bay 18 (CH183.00 - CH195.00)	2 days	2009/5/11	2009/5/12						
107	Bay 19 (CH195.00 - CH207.00)	2 days	2009/5/13	2009/5/14						
108	Bay 20 (CH207.00 - CH216.00)	2 days	2009/5/15	2009/5/16						
109	Bay 22 (CH220.00 - CH225.00)	2 days	2009/5/18	2009/5/19						
110	Bay 23 (CH225.00 - CH237.00)	2 days	2009/5/20	2009/5/21						
111	Bay 24 (CH237.00 - CH249.00)	2 days	2009/5/22	2009/5/23						
112	Bay 25 (CH249.00 - CH260.00)	2 days	2009/5/25	2009/5/26						
113	Bay 26 (CH260.00 - CH272.00)	2 days	2009/5/27	2009/5/29						
114	Bay 27 (CH272.00 - CH285.00)	1 day	2009/5/30	2009/5/30						
115	<b>Construction of catchpit / manhole / drain pipe along the sides of the channel</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
116	Bay 1 (CH00.00 - CH05.00)	6 days	2009/5/4	2009/5/9						
117	Bay 2 (CH05.00 - CH08.00) & Pedestrian Crossing PC14B-3	6 days	2009/5/11	2009/5/16						

Task  Progress  Summary  External Tasks  Split   
 Split  Milestone  Project Summary  External MileTask 

Monthly Rolling Programme - May 2009

ID	Task Name	Duration	Start	Complete	2009/5					
					26/4	3/5	10/5	17/5	24/5	31/5
118	Bay 3 (CH08.00 - CH13.00)	6 days	2009/5/18	2009/5/23						
119	Bay 4 (CH13.00 - CH25.00)	5 days	2009/5/25	2009/5/30						
120	<b>Channel KT14C</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
121	Rectangular channel 2.5m(W) x 2.0m(H) Type RC-1 (CH0.00 -CH475.00)	23 days	2009/5/4	2009/5/30						
122	Excavation to channel formation (CH180.00 - CH475.00) & Laying of rock fill material	23 days	2009/5/4	2009/5/30						
123	Bay 24E (CH222.00 - CH210.00)	5 days	2009/5/4	2009/5/8						
124	Bay 25E (CH210.00 - CH199.00)	5 days	2009/5/9	2009/5/14						
125	Bay 26E (CH199.00 - CH192.00)	5 days	2009/5/15	2009/5/20						
126	Bay 27E (CH192.00 - CH187.00)	5 days	2009/5/21	2009/5/26						
127	Bay 17W-2 (CH178.00 - CH187.00) & Vehicular Crossing VC14C-3	3 days	2009/5/27	2009/5/30						
128	<b>Construction of channel structure (CH180.00 - CH475.00)</b>	<b>18 days</b>	<b>2009/5/9</b>	<b>2009/5/30</b>						
129	Bay 24E (CH222.00 - CH210.00)	6 days	2009/5/9	2009/5/15						
130	Bay 25E (CH210.00 - CH199.00)	6 days	2009/5/16	2009/5/22						
131	Bay 26E (CH199.00 - CH192.00)	6 days	2009/5/23	2009/5/30						
132	<b>Backfilling along the sides of the channel structure &amp; laying underground drain pipe</b>	<b>3 days</b>	<b>2009/5/11</b>	<b>2009/5/13</b>						
133	Bay 23E (CH235.00 - CH222.00)	3 days	2009/5/11	2009/5/13						
134	<b>Construction of catchpit / manhole / drain pipe</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
135	Bay 9W (CH80.00 - CH92.00)	3 days	2009/5/4	2009/5/6						
136	Bay 10W (CH92.00 - CH105.00)	3 days	2009/5/7	2009/5/9						
137	Bay 11W (CH105.00 - CH117.00)	3 days	2009/5/11	2009/5/13						
138	Bay 12W (CH117.00 - CH128.00)	3 days	2009/5/14	2009/5/16						
139	Bay 13W (CH128.00 - CH141.00)	3 days	2009/5/18	2009/5/20						
140	Bay 14W (CH141.00 - CH149.00)	3 days	2009/5/21	2009/5/23						
141	Bay 15W (CH149.00 - CH161.00)	3 days	2009/5/25	2009/5/27						
142	Bay 16W (CH161.00 - CH174.00) - 2.5m(W) x 2.0m(H) Box Culvert (Type BC2)	2 days	2009/5/29	2009/5/30						
143										
144	<b>Section V</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
145	Preservation and protection of tree for Section I, II, III and IV	23 days	2009/5/4	2009/5/30						
146										
147	<b>Section VI - Portion 9A &amp; 9B (Tuen Mun Sewerage Work)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
148	Structural Survey and Monitoring	23 days	2009/5/4	2009/5/30						
149	Construction of Manhole, Timber Box and Trench Excavation	23 days	2009/5/4	2009/5/30						
150	Apply XP Approval for Construction	23 days	2009/5/4	2009/5/30						
151										
152	<b>Section VII - Portion 10A, 10B &amp; 10C (Tuen Mun Sewerage Work)</b>	<b>23 days</b>	<b>2009/5/4</b>	<b>2009/5/30</b>						
153	Structural Survey and Monitoring	23 days	2009/5/4	2009/5/30						
154	Construction of Manhole, Timber Box and Trench Excavation	23 days	2009/5/4	2009/5/30						
155	Apply XP Approval for Construction	23 days	2009/5/4	2009/5/30						

Task		Progress		Summary		External Tasks		Split	
Split		Milestone		Project Summary		External MileTask			

Three Months Rolling Programme - June 2009 to August 2009

Task Name	Duration	Start	Complete	2009/6				2009/7				2009/8							
				31/5	7/6	14/6	21/6	28/6	5/7	12/7	19/7	26/7	2/8	9/8	16/8	23/8	30/8		
1 Section I (Channel KT12 - Cheung Po Tsuen)	78 days	2009/6/1	2009/8/31	[Summary bar]															
2 Regular Environmental Impact Monitoring	78 days	2009/6/1	2009/8/31	[Task bar]															
3 Regular Tree Survey	78 days	2009/6/1	2009/8/31	[Task bar]															
4 Regular Structural Condition Survey	78 days	2009/6/1	2009/8/31	[Task bar]															
5																			
6 Section II (Channel KT13)	78 days	2009/6/1	2009/8/31	[Summary bar]															
7 Regular Environmental Impact Monitoring	78 days	2009/6/1	2009/8/31	[Task bar]															
8 Regular Tree Survey & Protection	78 days	2009/6/1	2009/8/31	[Task bar]															
9 Regular Structural Condition Survey	78 days	2009/6/1	2009/8/31	[Task bar]															
10 Section A	78 days	2009/6/1	2009/8/31	[Summary bar]															
11 Excavation to channel formation & laying of rock fill material (A CH0.00 - A CH402.00)	78 days	2009/6/1	2009/8/31	[Summary bar]															
12 Bay A5 (A CH34.00 - A CH41.00) - Transition	3 days	2009/6/1	2009/6/3	[Task bar]															
13 Bay A6 (A CH41.00 - A CH44.00) & Pedestrian Crossing	5 days	2009/6/4	2009/6/9	[Task bar]															
14 Bay A7 (A CH44.00 - A CH51.00) - Transition	5 days	2009/6/10	2009/6/15	[Task bar]															
15 Bay A8 (A CH51.00 - A CH59.00) - Transition	5 days	2009/6/16	2009/6/20	[Task bar]															
16 Bay A9 (A CH59.00 - A CH71.00) - TG2	5 days	2009/6/22	2009/6/26	[Task bar]															
17 Bay A10 (A CH71.00 - A CH83.00) - TG2	5 days	2009/6/27	2009/7/3	[Task bar]															
18 Bay A11 (A CH83.00 - A CH95.00) - TG2	5 days	2009/7/4	2009/7/9	[Task bar]															
19 Bay A12 (A CH95.00 - A CH107.00) - TG2	5 days	2009/7/10	2009/7/15	[Task bar]															
20 Bay A13 (A CH107.00 - A CH120.00) - TG2	5 days	2009/7/16	2009/7/21	[Task bar]															
21 Bay A14 (A CH120.00 - A CH132.00) - TG2	5 days	2009/7/22	2009/7/27	[Task bar]															
22 Bay A15 (A CH132.00 - A CH144.00) - TG2	5 days	2009/7/28	2009/8/1	[Task bar]															
23 Bay A16 (A CH144.00 - A CH156.00) - TG2	5 days	2009/8/3	2009/8/7	[Task bar]															
24 Bay A17 (A CH156.00 - A CH168.00) - TG2	5 days	2009/8/8	2009/8/13	[Task bar]															
25 Bay A18 (A CH168.00 - A CH180.00) - TG2	5 days	2009/8/14	2009/8/19	[Task bar]															
26 Bay A19 (A CH180.00 - A CH191.00) - TG2	5 days	2009/8/20	2009/8/25	[Task bar]															
27 Bay A20 (A CH191.00 - A CH201.00) - TG2	5 days	2009/8/26	2009/8/31	[Task bar]															
28 Construction of channel structure (RC2, Transition, and TG2)	78 days	2009/6/1	2009/8/31	[Summary bar]															
29 Bay A3 (A CH18.00 - A CH26.00) - RC2	7 days	2009/6/1	2009/6/8	[Task bar]															
30 Bay A4 (A CH26.00 - A CH34.00) - Transition	7 days	2009/6/9	2009/6/16	[Task bar]															
31 Bay A5 (A CH34.00 - A CH41.00) - Transition	7 days	2009/6/17	2009/6/24	[Task bar]															
32 Bay A6 (A CH41.00 - A CH44.00) & Pedestrian Crossing	7 days	2009/6/25	2009/7/3	[Task bar]															
33 Bay A7 (A CH44.00 - A CH51.00) - Transition	7 days	2009/7/4	2009/7/11	[Task bar]															
34 Bay A8 (A CH51.00 - A CH59.00) - Transition	7 days	2009/7/13	2009/7/20	[Task bar]															
35 Bay A9 (A CH59.00 - A CH71.00) - TG2	7 days	2009/7/21	2009/7/28	[Task bar]															
36 Bay A10 (A CH71.00 - A CH83.00) - TG2	7 days	2009/7/29	2009/8/5	[Task bar]															
37 Bay A11 (A CH83.00 - A CH95.00) - TG2	7 days	2009/8/6	2009/8/13	[Task bar]															
38 Bay A12 (A CH95.00 - A CH107.00) - TG2	7 days	2009/8/14	2009/8/21	[Task bar]															
39 Bay A13 (A CH107.00 - A CH120.00) - TG2	7 days	2009/8/22	2009/8/29	[Task bar]															
40 Bay A14 (A CH120.00 - A CH132.00) - TG2	1 day	2009/8/31	2009/8/31	[Task bar]															

Task [Task bar] Progress [Task bar] Summary [Task bar] External Tasks [Task bar] Split [Task bar]

Split [Task bar] Milestone [Task bar] Project Summary [Task bar] External MileTask [Task bar]





Three Months Rolling Programme - June 2009 to August 2009

Task Name	Duration	Start	Complete	2009/6				2009/7				2009/8							
				31/5	7/6	14/6	21/6	28/6	5/7	12/7	19/7	26/7	2/8	9/8	16/8	23/8	30/8		
81 Bay BC20 (BC CH215.00 - BC CH230.00)	10 days	2009/7/7	2009/7/17																
82 Bay BC21 (BC CH230.00 - BC CH245.00)	10 days	2009/7/18	2009/7/29																
83 Bay BC22 (BC CH245.00 - BC CH260.00)	10 days	2009/7/30	2009/8/10																
84 Bay BC23 (BC CH260.00 - BC CH275.00)	10 days	2009/8/11	2009/8/21																
85 Bay BC24 (BC CH275.00 - BC CH289.00)	8 days	2009/8/22	2009/8/31																
86 <b>Backfilling the sides of channel structure &amp; Laying of underground drain pipe</b>	<b>8 days</b>	<b>2009/8/22</b>	<b>2009/8/31</b>																
87 Bay BC19 (BC CH203.00 - BC CH215.00)	4 days	2009/8/22	2009/8/26																
88 Bay BC20 (BC CH215.00 - BC CH230.00)	4 days	2009/8/27	2009/8/31																
89 <b>Section B</b>	<b>78 days</b>	<b>2009/6/1</b>	<b>2009/8/31</b>																
90 <b>Excavation for chanel formation &amp; laying of rock fill material (B CH0.00 - B CH316.00)</b>	<b>15 days</b>	<b>2009/6/1</b>	<b>2009/6/17</b>																
91 Bay B3 (B CH14.00 - B CH24.00) - TG3	5 days	2009/6/1	2009/6/5																
92 Bay B2 (B CH07.00 - B CH14.00) - Transition	5 days	2009/6/6	2009/6/11																
93 Bay B1 (B CH00.00 - B CH07.00) - Transition	5 days	2009/6/12	2009/6/17																
94 <b>Construction of channel structure (Transition, TG3, TG4, TG5, and TG8)</b>	<b>32 days</b>	<b>2009/6/1</b>	<b>2009/7/8</b>																
95 Bay B7 (B CH57.00 - B CH68.00) - TG3	2 days	2009/6/1	2009/6/2																
96 Bay B6 (B CH46.00 - B CH57.00) - TG3	5 days	2009/6/3	2009/6/8																
97 Bay B5 (B CH34.00 - B CH46.00) - TG3	5 days	2009/6/9	2009/6/13																
98 Bay B4 (B CH24.00 - B CH34.00) - TG3	5 days	2009/6/15	2009/6/19																
99 Bay B3 (B CH14.00 - B CH24.00) - TG3	5 days	2009/6/20	2009/6/25																
100 Bay B2 (B CH07.00 - B CH14.00) - Transition	5 days	2009/6/26	2009/7/2																
101 Bay B1 (B CH00.00 - B CH07.00) - Transition	5 days	2009/7/3	2009/7/8																
102 <b>Backfilling along the sides of chanel &amp; laying of underground drain</b>	<b>75 days</b>	<b>2009/6/1</b>	<b>2009/8/27</b>																
103 Bay B15 (B CH144.00 - B CH147.00) - Transition & Pedestrian Crossing	5 days	2009/6/1	2009/6/5																
104 Bay B14 (B CH137.00 - B CH144.00) - Transition	5 days	2009/6/6	2009/6/11																
105 Bay B13 (B CH129.00 - B CH137.00) - Transition	5 days	2009/6/12	2009/6/17																
106 Bay B12 (B CH119.00 - B CH129.00) - TG3	5 days	2009/6/18	2009/6/23																
107 Bay B11 (B CH107.00 - B CH119.00) - TG3	5 days	2009/6/24	2009/6/29																
108 Bay B10 (B CH94.00 - B CH107.00) - TG3	5 days	2009/6/30	2009/7/6																
109 Bay B9 (B CH80.00 - B CH94.00) - TG3	5 days	2009/7/7	2009/7/11																
110 Bay B8 (B CH68.00 - B CH80.00) - TG3	5 days	2009/7/13	2009/7/17																
111 Bay B7 (B CH57.00 - B CH68.00) - TG3	5 days	2009/7/18	2009/7/23																
112 Bay B6 (B CH46.00 - B CH57.00) - TG3	5 days	2009/7/24	2009/7/29																
113 Bay B5 (B CH34.00 - B CH46.00) - TG3	5 days	2009/7/30	2009/8/4																
114 Bay B4 (B CH24.00 - B CH34.00) - TG3	5 days	2009/8/5	2009/8/10																
115 Bay B3 (B CH14.00 - B CH24.00) - TG3	5 days	2009/8/11	2009/8/15																
116 Bay B2 (B CH07.00 - B CH14.00) - Transition	5 days	2009/8/17	2009/8/21																
117 Bay B1 (B CH00.00 - B CH07.00) - Transition	5 days	2009/8/22	2009/8/27																
118 <b>Installation of Type 2 railing on top of channel wall</b>	<b>77 days</b>	<b>2009/6/1</b>	<b>2009/8/29</b>																
119 Bay B16 (B CH147.00 - B CH154.00) - Transition	3 days	2009/6/1	2009/6/3																
120 Bay B15 (B CH144.00 - B CH147.00) - Transition & Pedestrian Crossing	3 days	2009/7/18	2009/7/21																

Task Progress Summary External Tasks Split

Split Milestone Project Summary External MileTask

Three Months Rolling Programme - June 2009 to August 2009

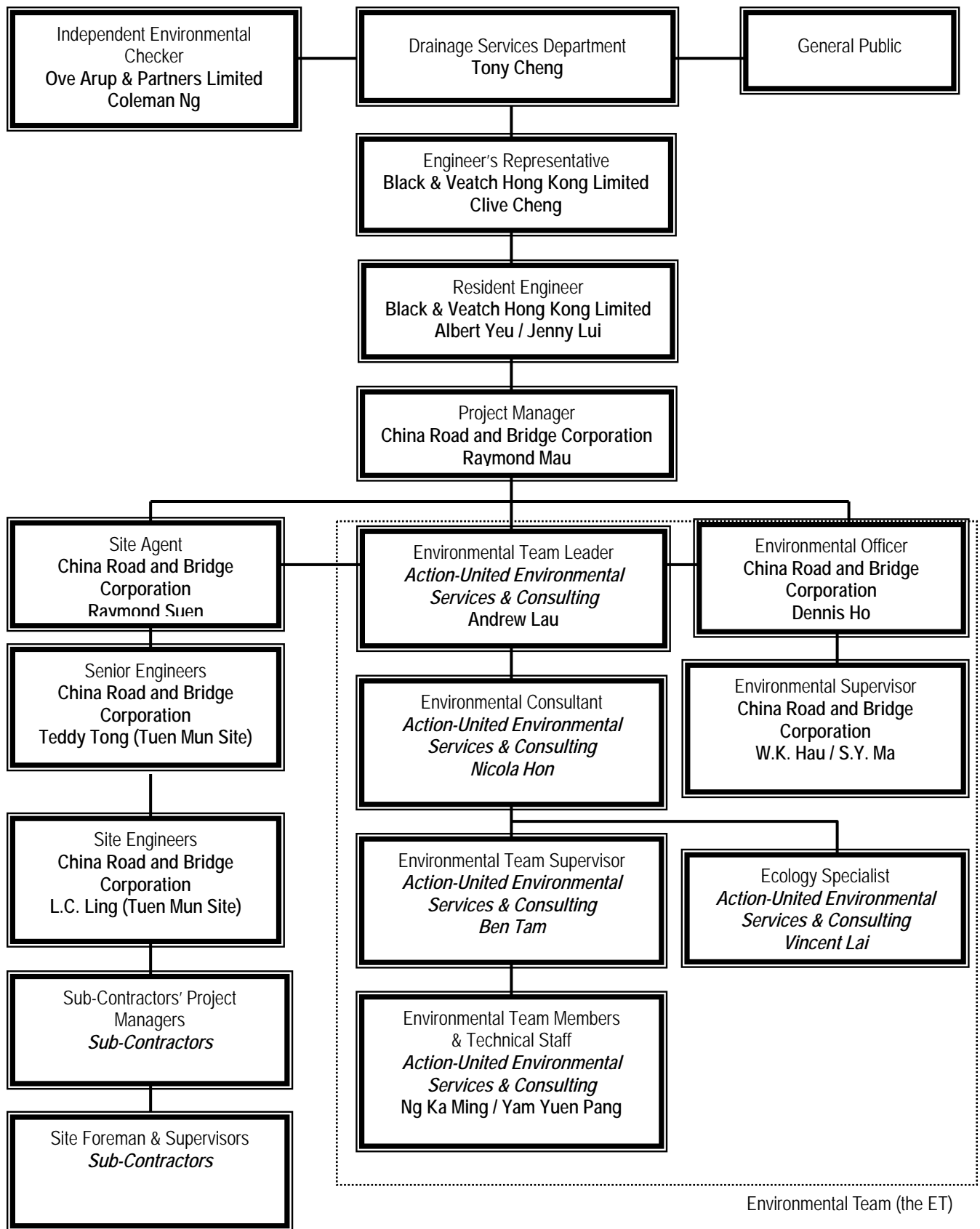
Task Name	Duration	Start	Complete	2009/6				2009/7				2009/8					
				31/5	7/6	14/6	21/6	28/6	5/7	12/7	19/7	26/7	2/8	9/8	16/8	23/8	30/8
121 Bay B14 (B CH137.00 - B CH144.00) - Transition	3 days	2009/7/22	2009/7/24														
122 Bay B13 (B CH129.00 - B CH137.00) - Transition	3 days	2009/7/25	2009/7/28														
123 Bay B12 (B CH119.00 - B CH129.00) - TG3	3 days	2009/7/29	2009/7/31														
124 Bay B11 (B CH107.00 - B CH119.00) - TG3	3 days	2009/8/1	2009/8/4														
125 Bay B10 (B CH94.00 - B CH107.00) - TG3	3 days	2009/8/5	2009/8/7														
126 Bay B9 (B CH80.00 - B CH94.00) - TG3	3 days	2009/8/8	2009/8/11														
127 Bay B8 (B CH68.00 - B CH80.00) - TG3	2 days	2009/8/12	2009/8/13														
128 Bay B7 (B CH57.00 - B CH68.00) - TG3	2 days	2009/8/14	2009/8/15														
129 Bay B6 (B CH46.00 - B CH57.00) - TG3	2 days	2009/8/17	2009/8/18														
130 Bay B5 (B CH34.00 - B CH46.00) - TG3	2 days	2009/8/19	2009/8/20														
131 Bay B4 (B CH24.00 - B CH34.00) - TG3	2 days	2009/8/21	2009/8/22														
132 Bay B3 (B CH14.00 - B CH24.00) - TG3	2 days	2009/8/24	2009/8/25														
133 Bay B2 (B CH07.00 - B CH14.00) - Transition	2 days	2009/8/26	2009/8/27														
134 Bay B1 (B CH00.00 - B CH07.00) - Transition	2 days	2009/8/28	2009/8/29														
135 Laying gabion block / granite block inside the channel	52 days	2009/7/2	2009/8/31														
136 Bay B28 (B CH282.00 - B CH294.00) - TG4	7 days	2009/7/2	2009/7/9														
137 Bay B27 (B CH270.00 - B CH282.00) - TG4	7 days	2009/7/10	2009/7/17														
138 Bay B26 (B CH260.00 - B CH270.00) - TG4	7 days	2009/7/18	2009/7/25														
139 Bay B25 (B CH248.00 - B CH260.00) - TG5	7 days	2009/7/27	2009/8/3														
140 Bay B24 (B CH236.00 - B CH248.00) - TG5	7 days	2009/8/4	2009/8/11														
141 Bay B23 (B CH224.00 - B CH236.00) - TG5	7 days	2009/8/12	2009/8/19														
142 Bay B22 (B CH212.00 - B CH224.00) - TG5	7 days	2009/8/20	2009/8/27														
143 Bay B21 (B CH200.00 - B CH212.00) - TG8	3 days	2009/8/28	2009/8/31														
144																	
145 Section III (Channel KT14A - Tin Sam Tsuen)	78 days	2009/6/1	2009/8/31														
170																	
171 Section IV (Channel KT14B & 14C and Portion 8A & 8B)	78 days	2009/6/1	2009/8/31														
293																	
294 Section V	78 days	2009/6/1	2009/8/31														
295 Preservation and protection of tree for Section I, II, III and IV	78 days	2009/6/1	2009/8/31														
296																	
297 Section VI - Portion 9A & 9B (Tuen Mun Sewerage Work)	78 days	2009/6/1	2009/8/31														
298 Structural Survey and Monitoring	78 days	2009/6/1	2009/8/31														
299 Construction of Manhole, Timber Box and Trench Excavation	78 days	2009/6/1	2009/8/31														
300 Apply XP Approval for Construction	78 days	2009/6/1	2009/8/31														
301																	
302 Section VII - Portion 10A, 10B & 10C (Tuen Mun Sewerage Work)	78 days	2009/6/1	2009/8/31														
303 Structural Survey and Monitoring	78 days	2009/6/1	2009/8/31														
304 Construction of Manhole, Timber Box and Trench Excavation	78 days	2009/6/1	2009/8/31														
305 Apply XP Approval for Construction	78 days	2009/6/1	2009/8/31														

Task Progress Summary External Tasks Split   
 Split Milestone Project Summary External MileTask

**Appendix C**

**Environmental Management Organization and**

**Contacts of Key Personnel**



Environmental Management Organization

**Contact Details of Key Personnel**

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
DSD	Employer	Mr. Tony Cheng	2594-7264	2827-8526
B&V	Engineer's Representative	Mr. Clive Cheng	2478-9161	2478-9369
B&V	Resident Engineer	Mr. Albert Yeu	2478-9161	2478-9369
B&V	Resident Engineer	Mr. Jenny Lui	2478-9161	2478-9369
OAP	Independent Environmental Checker	Mr. Coleman Ng	2268-3097	2268-3950
CRBC	Project Director	Mr. Wang Yanhua	2283-1688	2283-1689
CRBC	Project Manager	Mr. Raymond Mau	9048-3669	2283-1689
CRBC	Site Agent	Mr. Raymond Suen	9779-8871	2283-1689
CRBC	Senior Engineer (Tuen Mun Site)	Mr. Teddy Tong	6283-9684	2283-1689
CRBC	Site Engineer (Tuen Mun Site)	Mr. L.C. Ling	6770-4010	2283-1689
CRBC	Environmental Officer	Mr. Dennis Ho	6474-6975	2283-1689
CRBC	Environmental / Construction Supervisor (Tuen Mun and Yuen Long site)	Mr. W.K. Hau	6283-9696	2283-1689
CRBC	Environmental / Construction Supervisor (Yuen Long site)	Mr. S.Y. Ma	9401-6296	2283-1689
CRBC	Safety Officer	Kenny Sze	9374-8954	2283-1689
AUES	Environmental Team Leader	Mr. Andrew Lau	2959-6059	2959-6079
AUES	Environmental Consultant	Miss Nicola Hon	2959-6059	2959-6079
AUES	Environmental Site Inspector	Mr. Ben Tam	2959-6059	2959-6079
AUES	Ecologist	Mr. Vincent Lai	2959-6059	2959-6079

**Legend:**

*DSD(Employer) – Drainage Services Department*

*B&V (Engineer) – Black & Veatch Hong Kong Limited*

*CRBC (Main Contractor) – China Road and Bridge Corporation*

*OAP(IEC) – Ove Arup & Partners Ltd*

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



## **Appendix D**

### **(a) Monitoring Schedules**

### **(b) Meteorological Data**

**Monitoring Schedule for KT 13 for reporting period**

Date		Air Quality		NOISE LEQ 30MIN	WATER QUALITY	ECOLOGY SURVEYS
		1-hour TSP	24-hour TSP			
26-Mar-09	Thu				W1,W2, W3(a), W4, W5 & W6	
27-Mar-09	Fri					
28-Mar-09	Sat				W1,W2, W3(a), W4, W5 & W6	
29-Mar-09	Sun					
30-Mar-09	Mon		A1(a), A2		W1,W2, W3(a), W4, W5 & W6	
31-Mar-09	Tue	A1(a), A2		N1(a), N2(a) & N3		
1-Apr-09	Wed				W1,W2, W3(a), W4, W5 & W6	
2-Apr-09	Thu					
3-Apr-09	Fri				W1,W2, W3(a), W4, W5 & W6	
4-Apr-09	Sat					
5-Apr-09	Sun					
6-Apr-09	Mon		A1(a), A2		W1,W2, W3(a), W4, W5 & W6	
7-Apr-09	Tue	A1(a), A2		N1(a), N2(a) & N3		
8-Apr-09	Wed				W1,W2, W3(a), W4, W5 & W6	
9-Apr-09	Thu					
10-Apr-09	Fri					
11-Apr-09	Sat					
12-Apr-09	Sun					
13-Apr-09	Mon					
14-Apr-09	Tue				W1,W2, W3(a), W4, W5 & W6	
15-Apr-09	Wed		A1(a), A2			
16-Apr-09	Thu	A1(a), A2		N1(a), N2(a) & N3	W1,W2, W3(a), W4, W5 & W6	
17-Apr-09	Fri					
18-Apr-09	Sat				W1,W2, W3(a), W4, W5 & W6	
19-Apr-09	Sun					
20-Apr-09	Mon				W1,W2, W3(a), W4, W5 & W6	
21-Apr-09	Tue		A1(a), A2			
22-Apr-09	Wed	A1(a), A2		N1(a), N2(a) & N3	W1,W2, W3(a), W4, W5 & W6	
23-Apr-09	Thu					
24-Apr-09	Fri				W1,W2, W3(a), W4, W5 & W6	
25-Apr-09	Sat					
26-Apr-09	Sun					
27-Apr-09	Mon		A1(a), A2		W1,W2, W3(a), W4, W5 & W6	
28-Apr-09	Tue	A1(a), A2		N1(a), N2(a) & N3		
29-Apr-09	Wed				W1,W2, W3(a), W4, W5 & W6	
30-Apr-09	Thu					

	Monitoring Day
	Sunday or Public Holiday

**Monitoring Schedule of KT 13 for next month (May 2009)**

Date		Air Quality		NOISE LEQ 30MIN	WATER QUALITY	ECOLOGY SURVEYS
		1-Hour TSP	24-Hour TSP			
1-May-09	Fri					
2-May-09	Sat					
3-May-09	Sun					
4-May-09	Mon				W1,W2, W3(a), W4, W5 & W6	
5-May-09	Tue		A1(a), A2			
6-May-09	Wed	A1(a), A2		N1(a), N2(a) & N3	W1,W2, W3(a), W4, W5 & W6	
7-May-09	Thu					
8-May-09	Fri				W1,W2, W3(a), W4, W5 & W6	
9-May-09	Sat					
10-May-09	Sun					
11-May-09	Mon		A1(a), A2		W1,W2, W3(a), W4, W5 & W6	
12-May-09	Tue	A1(a), A2		N1(a), N2(a) & N3		
13-May-09	Wed				W1,W2, W3(a), W4, W5 & W6	
14-May-09	Thu					
15-May-09	Fri				W1,W2, W3(a), W4, W5 & W6	
16-May-09	Sat		A1(a), A2			
17-May-09	Sun					
18-May-09	Mon	A1(a), A2		N1(a), N2(a) & N3	W1,W2, W3(a), W4, W5 & W6	
19-May-09	Tue					
20-May-09	Wed				W1,W2, W3(a), W4, W5 & W6	
21-May-09	Thu					
22-May-09	Fri		A1(a), A2		W1,W2, W3(a), W4, W5 & W6	
23-May-09	Sat	A1(a), A2		N1(a), N2(a) & N3		
24-May-09	Sun					
25-May-09	Mon				W1,W2, W3(a), W4, W5 & W6	
26-May-09	Tue					
27-May-09	Wed				W1,W2, W3(a), W4, W5 & W6	
28-May-09	Thu					
29-May-09	Fri		A1(a), A2		W1,W2, W3(a), W4, W5 & W6	
30-May-09	Sat	A1(a), A2		N1(a), N2(a) & N3		
31-May-09	Sun					

	Monitoring Day
	Sunday or Public Holiday

Meteorological Data Extracted from HKO during the Reporting Period

Date	Weather	Lau Fau Shan Weather Station					
		Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction	
26-Mar-09	Thu	cloudy/rain/moderate/fresh	Trace	18.1	11.5	76.5	E/NE
27-Mar-09	Fri	cloudy/rain/mist/moderate/fresh	10.4	20.6	14	84.5	E
28-Mar-09	Sat	cloudy/fog/rain/thunderstorm/moderate	0.6	24.4	10	86.2	E/NE
29-Mar-09	Sun	cloudy/rain/fresh/strong	2.6	19.1	11.5	84.5	E/NE
30-Mar-09	Mon	sunny intervals/cloudy/fresh/strong	Trace	18.7	12.5	78.5	E/NE
31-Mar-09	Tue	sunny periods/cloudy/interate/fresh	Trace	20	12	75	E/NE
1-Apr-09	Wed	sunny	0	21.8	11.2	68.5	E/NE
2-Apr-09	Thu	cloudy/dry/rain/fresh/strong	Trace	19.7	17.2	58.5	E
3-Apr-09	Fri	cloudy/sunny intervals/fresh/strong	Trace	20.4	16.5	62.5	E
4-Apr-09	Sat	Holiday	-	-	-	-	-
5-Apr-09	Sun	cloudy/moderate/fresh	0	23.7	14	68.5	W/NW
6-Apr-09	Mon	cloudy/rain/moderate	8.1	18.2	13	76	E/NE
7-Apr-09	Tue	cloudy/dry/moderate	0.6	17.7	9.2	78.5	E/NE
8-Apr-09	Wed	cloudy/sunny periods/moderate/fresh	0	21.6	8.5	72.2	E/NE
9-Apr-09	Thu	dry/sunny periods/fresh/strong	0	22.7	14	57	E
10-Apr-09	Fri	Holiday	-	-	-	-	-
11-Apr-09	Sat	Holiday	-	-	-	-	-
12-Apr-09	Sun	Holiday	-	-	-	-	-
13-Apr-09	Mon	Holiday	-	-	-	-	-
14-Apr-09	Tue	fine/hazy/isolated showers/light winds	0	25.4	10.5	82	W/SW
15-Apr-09	Wed	sunny periods/cloudy/a few	4.3	25	10	74.5	E/NE
16-Apr-09	Thu	sunny periods/showers/moderate	2.9	23	23.5	76.2	E/NE
17-Apr-09	Fri	haze/sunny	0	24.5	7.5	78	E/NE
18-Apr-09	Sat	cloudy/a few showers/fresh/strong	34.1	22.2	17.5	71	E/SE
19-Apr-09	Sun	cloudy/rain/strong	4.5	25.3	21	86	S/SW
20-Apr-09	Mon	sunny periods/cloudy/moderate	0	27.3	13.7	76	W/SW
21-Apr-09	Tue	cloudy/moderate	1.5	26.7	11.5	55.5	E/NE
22-Apr-09	Wed	cloudy/rain/fresh/strong	Trace	24.1	16.5	63	E
23-Apr-09	Thu	cloudy/rain/fresh/strong	0.2	25.1	20.5	70	E
24-Apr-09	Fri	cloudy/mist/moderate	Trace	25.3	11.7	78	E/SE
25-Apr-09	Sat	overcast/rain/squally	43	21.4	15	81.5	E/NE

**Appendix E**  
**Calibration Certificates and**  
**HOKLAS-Accreditation Certificate**



# CERTIFICATE OF ANALYSIS



**Batch:** HK0905005  
**Date of Issue:** 18/03/2009  
**Client:** ACTION UNITED ENVIRO SERVICES  
**Client Reference:**

## Calibration of DO System

**Item :** YSI incorporated. Yellow Springs, Ohio 45387 USA  
**Model No. :** YSI 55/12FT  
**Serial No. :** 97F0837 AM  
**Equipment No. :** --  
**Calibration Method :** This meter was calibrated in accordance with standard method APHA (18th Ed.) 4500-O C & G  
**Date of Calibration :** 18 March, 2009

## Testing Results :

Expected Reading	Recording Reading
4.34 mg/L	4.34 mg/L
6.96 mg/L	7.04 mg/L
8.40 mg/L	8.49 mg/L
Allowing Deviation	±0.2 mg/L

Ms Wong Wai Man, Alice  
Laboratory Manager - Hong Kong

# CERTIFICATE OF ANALYSIS



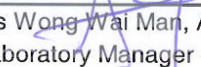
**Batch:** HK0905005  
**Date of Issue:** 18/03/2009  
**Client:** ACTION UNITED ENVIRO SERVICES  
**Client Reference:**

## Calibration of Thermometer

**Item :** YSI SONDE Environmental Monitoring System  
**Model No. :** YSI 55/12FT  
**Serial No. :** 97F0837 AM  
**Equipment No. :** --  
**Calibration Method :** In-house Method  
**Date of Calibration :** 18 March, 2009

## Testing Results :

Reference Temperature (°C)	Recorded Temperature (°C)
23.5 °C	23.2 °C
35.5 °C	34.6 °C
Allowing Deviation	±2.0°C

  
Ms Wong Wai Man, Alice  
Laboratory Manager - Hong Kong

# CERTIFICATE OF ANALYSIS



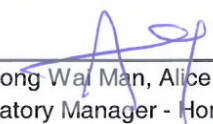
**Batch:** HK0901067  
**Date of Issue:** 19/01/2009  
**Client:** ACTION UNITED ENVIRO SERVICES  
**Client Reference:**

## Calibration of Salinity System

**Item :** HAND REFRACTOMETER  
**Model No. :** ATAGO  
**Serial No. :** 289468  
**Equipment No. :** EQ114  
**Calibration Method :** This meter was calibrated in accordance with standard method APHA (19th Ed.) 2520 A and B  
**Date of Calibration :** 19 January, 2009

## Testing Results :

Expected Reading	Recording Reading
0 g/L	0 g/L
10 g/L	9 g/L
20 g/L	18 g/L
30 g/L	27 g/L
40 g/L	37 g/L
Allowing Deviation	±10%

  
Ms Wong Wa Man, Alice  
Laboratory Manager - Hong Kong

# CERTIFICATE OF ANALYSIS



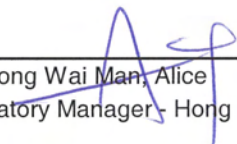
Batch: HK0907266  
Date of Issue: 21/04/2009  
Client: ACTION UNITED ENVIRO SERVICES  
Client Reference:

## Calibration of Salinity System

Item : HAND REFRACTOMETER  
Model No. : ATAGO  
Serial No. : 289468  
Equipment No. : EQ114  
Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2520 A and B  
Date of Calibration : 21 April, 2009

### Testing Results :

Expected Reading	Recording Reading
10 g/L	9 g/L
20 g/L	18 g/L
30 g/L	27 g/L
40 g/L	36 g/L
Allowing Deviation	±10%

  
Ms Wong Wai Man, Alice  
Laboratory Manager - Hong Kong

# CERTIFICATE OF ANALYSIS



**Batch:** HK0904487  
**Date of Issue:** 24/03/2009  
**Client:** ACTION UNITED ENVIRO SERVICES  
**Client Reference:**

## Calibration of Turbidity System

**Item :** HACH Turbidimeter  
**Model No. :** HACH 2100P  
**Serial No. :** 950900008735  
**Equipment No. :** EQ091  
**Calibration Method :** This meter was calibrated in accordance with standard method APHA (19th Ed.) 2130B  
**Date of Calibration :** 09 March, 2009

## Testing Results :

Expected Reading	Recording Reading
0.00 NTU	0.43 NTU
1.00 NTU	0.91 NTU
2.00 NTU	2.01 NTU
4.00 NTU	4.10 NTU
16.0 NTU	16.6 NTU
40.0 NTU	40.4 NTU
80.0 NTU	79.4 NTU
160 NTU	159 NTU
400 NTU	409 NTU
600 NTU	642 NTU
800 NTU	858 NTU
Allowing Deviation	±10%

Ms Wong Wai Man, Alice  
Laboratory Manager - Hong Kong



# CERTIFICATE OF ANALYSIS



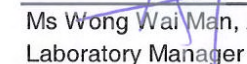
**Batch:** HK0904933  
**Date of Issue:** 17/03/2009  
**Client:** ACTION UNITED ENVIRO SERVICES  
**Client Reference:**

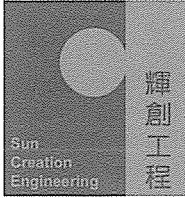
## Calibration of pH System

**Item :** pH Meter  
**Model No. :** Hanna HI98107  
**Serial No. :** s411364  
**Equipment No. :** --  
**Calibration Method :** This meter was calibrated in accordance with standard method APHA (19th Ed.) 4500-H<sup>+</sup>B  
**Date of Calibration :** 17 March, 2009

## Testing Results :

Expected Reading	Recording Reading
4.00	3.9
7.00	7.0
10.0	9.9
Allowing Deviation	± 0.2

  
Ms Wong Wai Man, Alice  
Laboratory Manager - Hong Kong



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C082016

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Integrating Sound Level Meter (EQ006)*

*Manufacturer : Bruel & Kjaer*

*Model No. : 2238*

*Serial No. : 2285762*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C082016.*

*The equipment is supplied by*

*Co. Name : Action-United Environmental Services and Consulting*

*Address : Unit A, 20/F., Gold King Industrial Building,  
35-41 Tai Lin Pai Road, Kwai Chung, N.T.*

*Date of Issue : 22 April 2008*

*Certified by :*

*K C Lee*

The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

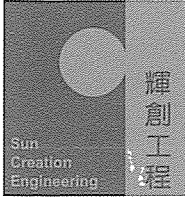
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C082026

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Acoustical Calibrator (EQ016)*

*Manufacturer : Bruel & Kjaer*

*Model No. : 4231*

*Serial No. : 2292167*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C082026.*

*The equipment is supplied by*

*Co. Name : Action-United Environmental Services and Consulting*

*Address : Unit A, 20/F., Gold King Industrial Building,  
35-41 Tai Lin Pai Road, Kwai Chung, N.T.*

*Date of Issue : 22 April 2008*

Certified by :

*K/C Lee*

The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F, Tsing Shan Wan Exchange Building, I Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	No.68 Ho Pui Village	Date of Calibration: 3-Feb-09
Location ID :	ASR14 (A1(a))	Next Calibration Date: 3-Apr-09
		Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1021.8	Corrected Pressure (mm Hg)	766.35
Temperature (°C)	18.3	Temperature (K)	291

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988

### 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	4.8	4.8	9.6	2.051	53	54.45	Slope = 41.5949 Intercept = -31.2565 Corr. coeff. = 0.9983		
13	4.0	4.0	8.0	1.873	46	47.25			
10	3.3	3.3	6.6	1.702	37	38.01			
7	2.6	2.6	5.2	1.513	31	31.85			
5	1.4	1.4	2.8	1.113	15	15.41			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H20(Pa/Pstd)(Tstd/Ta))-b]$$

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

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:**

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

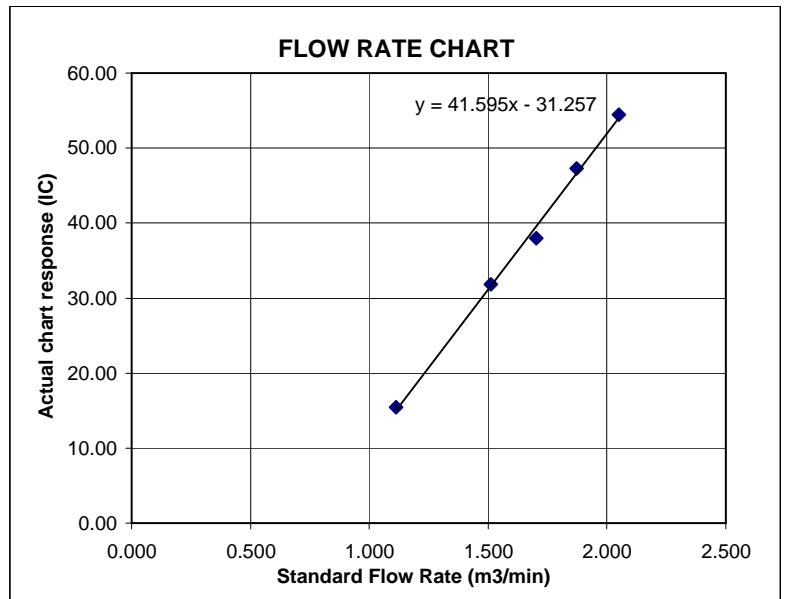
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	No.1 Ma On Kong Village	Date of Calibration: 3-Feb-09
Location ID :	ASR15 (A2)	Next Calibration Date: 3-Apr-09
		Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	19.6	Temperature (K)	293

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.0	5.0	10.0	2.084	52	53.08	Slope = 39.1190 Intercept = -27.6481 Corr. coeff. = 0.9981
13	3.7	3.7	7.4	1.794	42	42.87	
10	2.8	2.8	5.6	1.563	34	34.70	
7	2.1	2.1	4.2	1.355	25	25.52	
5	1.5	1.5	3.0	1.147	16	16.33	

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H20(Pa/Pstd)(Tstd/Ta))-b]$$

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

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:**

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

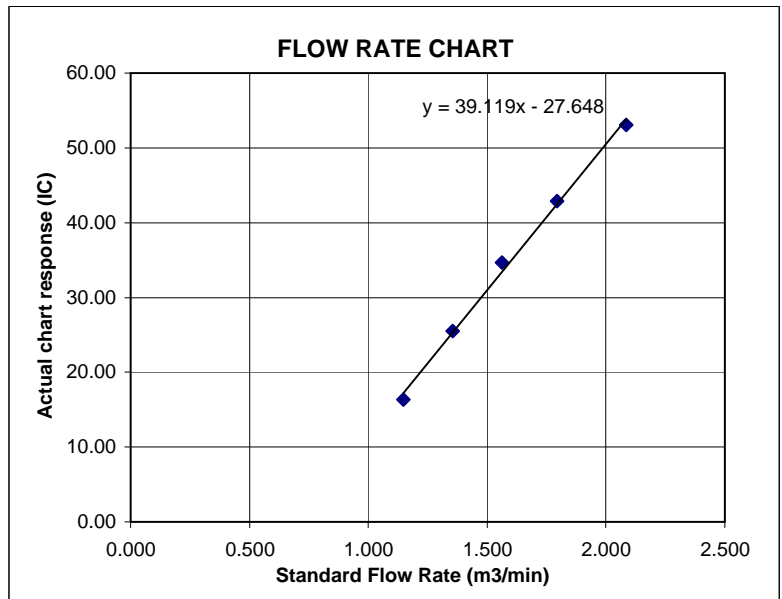
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	No.68 Ho Pui Village	Date of Calibration:	3-Apr-09
Location ID :	ASR14 (A1(a))	Next Calibration Date:	3-Jun-09
		Technician: Mr. Ben Tam	

### CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	18.8	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.8	4.8	9.6	2.045	52	53.22	Slope = 41.6893 Intercept = -31.3476 Corr. coeff. = 0.9984
13	4.0	4.0	8.0	1.868	46	47.08	
10	3.2	3.2	6.4	1.672	37	37.87	
7	2.6	2.6	5.2	1.508	32	32.75	
5	1.4	1.4	2.8	1.110	14	14.33	

**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

T<sub>a</sub> = actual temperature during calibration ( deg K )

P<sub>std</sub> = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

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

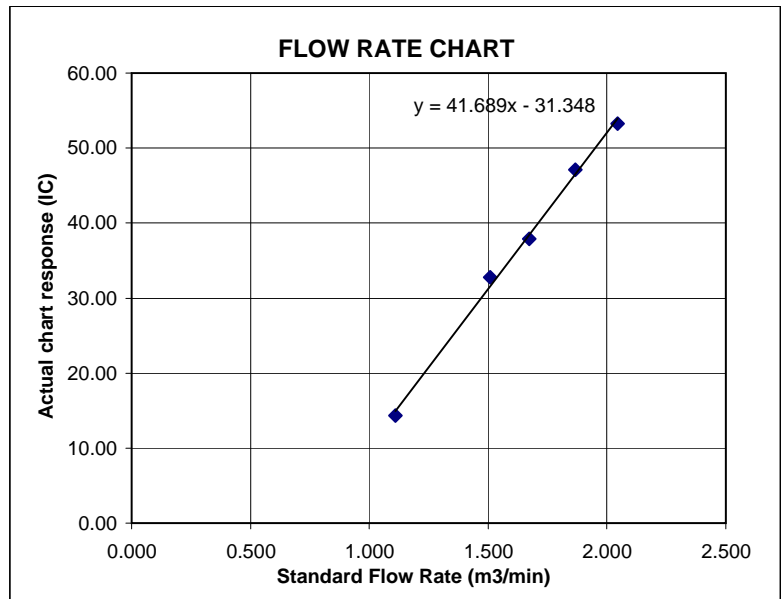
m = sampler slope

b = sampler intercept

I = chart response

T<sub>av</sub> = daily average temperature

P<sub>av</sub> = daily average pressure





## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	No.1 Ma On Kong Village	Date of Calibration:	3-Apr-09
Location ID :	ASR15 (A2)	Next Calibration Date:	3-Jun-09
		Technician: Mr. Ben Tam	

### CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	18.8	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988

### 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	4.9	4.9	9.8	2.066	51	52.20	40.3735	-30.2841	0.9984
13	3.7	3.7	7.4	1.797	42	42.99			
10	2.8	2.8	5.6	1.565	33	33.78			
7	2.1	2.1	4.2	1.357	24	24.56			
5	1.5	1.5	3.0	1.149	15	15.35			

#### Calculations :

$$Qstd = 1/m[\text{Sqrt}(H20(Pa/Pstd)(Tstd/Ta))-b]$$

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

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:

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

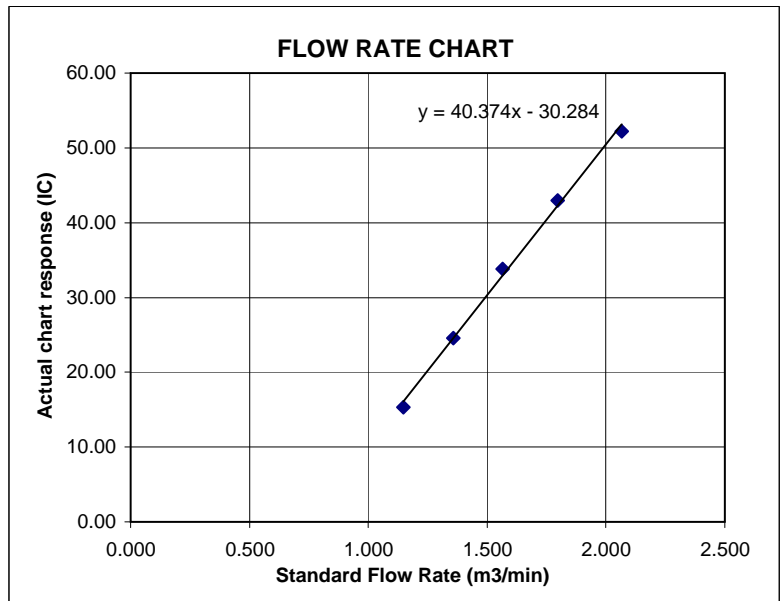
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## Equipment Calibration Record

### Equipment Calibrated:

Type: Laser Dust monitor  
 Manufacturer: Sibata  
 Serial No. 362337  
 Equipment Ref: EQ094  
 Sensitivity 722 CPM

### Standard Equipment:

Standard Equipment: Higher Volume Sampler  
 Location & Location ID: Village House in Tin Sam San Tsuen  
 Equipment Ref: A10  
 Last Calibration Date: 07 May 2008

### Equipment Calibration Results:

Calibration Date: 20 June 2008

Hour	Time	Temp °C	RH %	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
1	11:30 ~ 12:30	31.2	82	0.133	3818	63.6
1	14:30 ~ 15:30	32.1	77	0.056	1430	23.8
1	16:30 ~ 17:30	29.2	81	0.058	1468	24.5

Sensitivity Adjustment Scale Setting (Before Calibration) 722 (CPM)

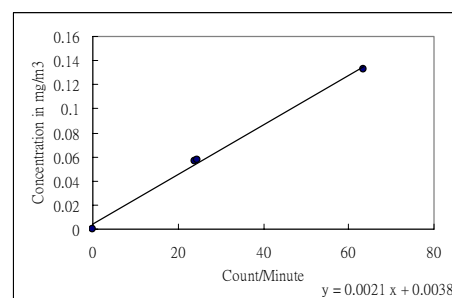
Sensitivity Adjustment Scale Setting (After Calibration) 722 (CPM)


### Linear Regression of Y or X


Slope (K-factor): 0.0021

Correlation Coefficient 0.9977

Validity of Calibration Record 24 June 2008



Operator : Ben Tam Signature :  Date : 24 June 2008

QC Reviewer : Ken Wong Signature :  Date : 24 June 2008

## Equipment Calibration Record

### Equipment Calibrated:

Type: Laser Dust monitor  
 Manufacturer: Sibata  
 Serial No. 362359  
 Equipment Ref: EQ096  
 Sensitivity 769 CPM

### Standard Equipment:

Standard Equipment: Higher Volume Sampler  
 Location & Location ID: Village House in Cheung Chun San Tsuen  
 Equipment Ref: A1  
 Last Calibration Date: 07 May 2008

### Equipment Calibration Results:

Calibration Date: 20 June 2008

Hour	Time	Temp °C	RH %	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
1	11:30 ~ 12:30	31.2	82	0.133	4240	70.7
1	14:30 ~ 15:30	32.1	77	0.056	1602	26.7
1	16:30 ~ 17:30	29.2	81	0.058	1764	29.4

Sensitivity Adjustment Scale Setting (Before Calibration) 769 (CPM)

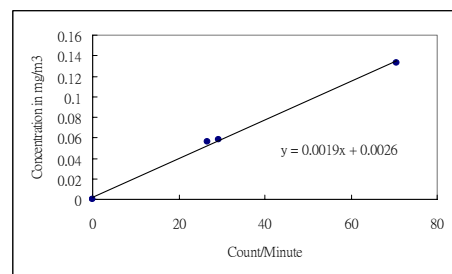
Sensitivity Adjustment Scale Setting (After Calibration) 769 (CPM)

### Linear Regression of Y or X


Slope (K-factor): 0.0019

Correlation Coefficient 0.9988

Validity of Calibration Record 24 June 2008



Operator : Ben Tam Signature :  Date : 24 June 2008

QC Reviewer : Ken Wong Signature :  Date : 24 June 2008



Hong Kong Accreditation Service  
香港認可處

**Certificate of Accreditation**  
認可證書

*This is to certify that*  
特此證明

**ALS TECHNICHEM (HK) PTY LIMITED**

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong  
香港葵涌永業街1-3號忠信針織中心11樓

*has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a*  
為香港認可處執行機關根據認可諮詢委員會建議而接受的

**HOKLAS Accredited Laboratory**  
「香港實驗所認可計劃」認可實驗所

*This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as listed in the HOKLAS Directory of Accredited Laboratories within the test category of*  
此實驗所符合ISO / IEC 17025 : 2005 - 《測試及校正實驗所能力的通用規定》所訂的要求，這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作  
獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定  
測試或校正工作

**Environmental Testing**  
環境測試

*This laboratory is accredited in accordance with the recognised International Standard ISO / IEC 17025 : 2005.*  
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。

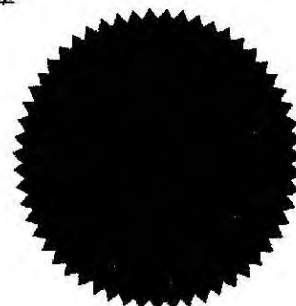
*This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated 18 June 2005).*  
這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作  
(見國際標準化組織、國際實驗所認可合作組織及國際認可論壇於二零零五年六月十八日的聯合公報)。

*The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive*  
香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator  
執行幹事 陳成城  
Issue Date : 3 May 2006  
簽發日期：二零零六年五月三日

Registration Number : **HOKLAS 066**  
註冊號碼：

Date of First Registration : 15 September 1995  
首次註冊日期：一九九五年九月十五日



## **Appendix F**

### **Event and Action Plan**

**Event/Action Plan for Air Quality**

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



**Event/Action Plan for Construction Noise Monitoring**

EVENT	ACTION			
	CONTRACTOR'S ET LEADER	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC, Contractor and ER</li> <li>2. Carry out investigation</li> <li>3. Report the results of investigation to the IEC, Contractor and ER</li> <li>4. Discuss with the Contractor and formulate remedial measures</li> <li>5. Double monitoring frequency</li> <li>6. Check compliance to Action/Limit Levels after application of mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the Contract's ET leader</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly</li> <li>3. Review the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of complaint 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 ER and IEC</li> <li>2. Implement noise mitigation proposals</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, EPD and Contractor</li> <li>2. Identify Source</li> <li>3. Repeat measurement 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 IEC, ER and EPD the causes &amp; actions taken for the exceedances</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, 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, Contractor's ET leader 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. Audit 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> <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 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>

### Event and Action Plan for Water Quality

Event	ET Leader	IEC	ER	Contractor
Action level being exceeded by one sampling day	Repeat in-site measurement to confirm findings; Identify Source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Repeat measurement on next day of exceedance	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly Assess the effectiveness of the implemented mitigation measures.	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented;	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check at plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER; Implement the agreed mitigation measures.
Action level being exceeded by more than one consecutive sampling days	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; Repeat measurement on next day of exceedance.	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly Assess the effectiveness of the implemented mitigation measures.	Discuss with IEC on the proposed mitigation measures; Made agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level.	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advise the R accordingly Assess the effectiveness of the implemented mitigation measures.	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contract to critically review the working methods; Made agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; consider changes of working methods; Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures/
Limit level being exceeded by more than one consecutive sampling days	Repeat in-situ measurement to confirm fundings; Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the Monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly Assess the effectiveness of the implemented mitigation measures.	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level.	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures; As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities.

**Event/Action Plan for Ecology**

EVENT	ACTION			
	ET Leader	IEC	Engineer	Contractor
ACTION REACHED LEVEL	<ol style="list-style-type: none"> <li>1. Carry out investigation</li> <li>2. Review results and assess whether amendment to action level is appropriate</li> <li>3. Report the results of investigation to the IEC</li> <li>4. Notify Contractor and Engineer</li> <li>5. Discuss with the Contractor and formulate remedial measures</li> <li>6. Repeat survey to confirm results</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by ET</li> <li>2. Review the proposed remedial measures by the Contractor and advice the Engineer accordingly</li> <li>3. 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. Require Contractor to propose remedial measures for the analysed problem</li> <li>4. Ensure remedial measures properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further problem</li> <li>2. Submit proposals for remedial actions to IEC 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> </ol>
LIMIT REACHED LEVEL	<ol style="list-style-type: none"> <li>1. Carry out investigation</li> <li>2. Review results and assess whether amendment to limit level is appropriate</li> <li>3. Report the results of investigation to the IEC</li> <li>4. Notify Contractor and Engineer</li> <li>5. Discuss with the Contractor and formulate remedial measures</li> <li>6. Repeat survey to confirm results</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by ET</li> <li>2. Review the proposed remedial measures by the Contractor and advice the Engineer accordingly</li> <li>3. 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. Require Contractor to propose remedial measures for the analysed problem</li> <li>4. Ensure remedial measures properly implemented</li> <li>5. Issue instruction to stop the relevant portion of the works until the problem is abated (construction period only).</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further problem</li> <li>2. Submit proposals for remedial actions to IEC 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 Engineer until the problem is abated (construction period only)</li> </ol>

**Event and Action Plan for Cultural Heritage**

EVENT	ACTION			
	ET Leader	IEC	ER	Contractor
Action Level	<p>Notify IEC and Contractor to carry out investigation</p> <p>Report reasons of structural damage or instability to the IEC and Contractor Discuss with the Contractor and formulate remedial measures</p> <p>Increase monitoring frequency to once per week to check mitigation effectiveness</p>	<p>Review report of structural damage or instability by the ET.</p> <p>Review proposed remedial measures by the Contractor and advise the ER and Antiquities and Monuments Office (AMO) accordingly</p> <p>Supervise the implementation of remedial measures, with approval from AMO.</p>	<p>Confirm receipt of notification of failure in writing</p> <p>Notify Contractor</p> <p>Require Contractor to propose remedial measures and to notify and seek approval from AMO.</p> <p>Ensure remedial measures are properly implemented.</p>	<p>Notify AMO concerning the damage or structural instability of the cultural heritage resources</p> <p>Submit proposals for repair of damage to cultural heritage resources to AMO for approval and to implement approved measures.</p>
Limit Level	<p>Notify IEC and Contractor to carry out investigation and to stop construction work within 100m of cultural heritage resource to avoid further impact until AMO are satisfied that the relevant structure has been repaired or stabilized to an acceptable level.</p> <p>Report reasons of continued structural damage or instability to the IEC and Contractor Discuss with the Contractor and formulate remedial measures</p> <p>Increase monitoring frequency to daily to check mitigation effectiveness</p>	<p>Review report of structural damage or instability by the ET.</p> <p>Review proposed remedial measures by the Contractor and advise the ER and Antiquities and Monuments Office (AMO) accordingly.</p> <p>Supervise the implementation of remedial measures, with approval from AMO.</p>	<p>Confirm receipt of notification of failure in writing</p> <p>Notify Contractor</p> <p>Require Contractor to propose remedial measures and to notify and seek approval from AMO.</p> <p>Ensure remedial measures are properly implemented.</p>	<p>To carry out investigation and to stop construction work within 100m of cultural heritage resource to avoid further impact until AMO are satisfied that the relevant structure has been repaired or stabilized to an acceptable level.</p> <p>Propose remedial measures for the repair and stabilization of cultural heritage resources, up to liaison of moving and rebuilding the relevant structure with the approval of owner (usually the clan members) and AMO.</p>

**Event and Action Plan for Landscape and Visual Impact - Construction Phase**

Action Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform the IEC and the ER</li> <li>3. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>4. Monitor remedial actions until rectification has been completed</li> </ol>	<ol style="list-style-type: none"> <li>1. Check report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ER and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Amend working methods</li> <li>2. Rectify damage and undertake remedial measures or any necessary replacement</li> </ol>
Repeated Non-conformity	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform the IEC and the ER</li> <li>3. Increase monitoring (site audit) frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If exceedance stops, cease additional monitoring (site audit)</li> </ol>	<ol style="list-style-type: none"> <li>1. Check report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ER and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> <li>5. Supervise implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Amend working methods</li> <li>2. Rectify damage and undertake remedial measures or any necessary replacement</li> </ol>

## **Appendix G**

### **(a) Impact Environmental Monitoring Data**

### **(b) Graphic Plot of Monitoring**

- 1. Construction Noise**
- 2. Air Quality**
- 3. Water Quality**



DSD CONTRACT NO. DC/2007/17

Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen and Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

24-Hour TSP Monitoring Results

DATE	SAMPLE NUMBER	STANDARD										BLANK			SAMPLE OF FILTER PAPER			Dust 24-Hr TSP in Air ( $\mu\text{g}/\text{m}^3$ )	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )	
		ELAPSED TIME			CHART READING		AVERAGE			FLOW	AIR	SAMPLE NUMBER	WEIGHT (g)			WEIGHT (g)					
		INITIAL	FINAL	(min)	MIN	MAX	CHART READING	TEMP (°C)	PRESS (hPa)	RATE ( $\text{m}^3/\text{min}$ )	VOLUME ( $\text{std m}^3$ )		INITIAL	FINAL	DIFF	INITIAL	FINAL				DUST COLLECTION
<b>KT13(A1(a))</b>																					
Date of Calibration: 3-Feb-2009 Next Calibration Date: 3-Apr-2009 Cal Graph Slope = 41.5949 Intercept = -31.2565																					
Date of Calibration: 3-Apr-2009 Next Calibration Date: 3-Jun-2009 Cal Graph Slope = 41.6893 Intercept = -31.3476																					
30-Mar-09	SH26	1699.62	1723.34	1423.20	22	23	22.5	19.4	1017.8	1.30	1848	NA	3.6459	3.6419	-0.0040	3.5549	3.5776	0.0227	14	144	260
6-Apr-09	SH65	1723.34	1747.07	1423.80	23	24	23.5	19.1	1015.9	1.32	1882	NA	3.6459	3.6419	-0.0040	2.8025	2.8363	0.0338	20	144	260
15-Apr-09	SI20	1747.07	1769.67	1356.00	22	23	22.5	23.1	1009.6	1.29	1752	NA	3.6459	3.6419	-0.0040	2.8106	2.9708	0.1602	94	144	260
21-Apr-09	SI72	1769.67	1793.40	1423.80	23	24	23.5	25.3	1006.7	1.31	1870	NA	3.6459	3.6419	-0.0040	2.8296	2.9066	0.0770	43	144	260
<b>KT13(A2)</b>																					
Date of Calibration: 3-Feb-2009 Next Calibration Date: 3-Apr-2009 Cal Graph Slope = 39.1190 Intercept = -27.6481																					
Date of Calibration: 3-Apr-2009 Next Calibration Date: 3-Jun-2009 Cal Graph Slope = 40.3735 Intercept = -30.2841																					
30-Mar-09	SH27	1677.62	1700.87	1395.00	29	30	29.5	19.4	1017.8	1.47	2050	NA	3.6459	3.6419	-0.0040	3.5628	3.5873	0.0245	14	141	260
6-Apr-09	SH66	1700.87	1724.07	1392.00	30	31	30.5	19.1	1015.9	1.51	2108	NA	3.6459	3.6419	-0.0040	2.7990	2.8197	0.0207	12	141	260
15-Apr-09	SI21	1724.07	1746.76	1361.40	29	30	29.5	23.1	1009.6	1.48	2017	NA	3.6459	3.6419	-0.0040	2.8350	2.9383	0.1033	53	141	260
21-Apr-09	SI73	1746.76	1769.93	1390.20	30	31	30.5	25.3	1006.7	1.50	2089	NA	3.6459	3.6419	-0.0040	2.8359	2.8910	0.0551	28	141	260

Summary of Water Quality Monitoring Results - KT13

Date 26-Mar-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	10:30	0.13	20.9	20.9	4.13	4.12	44.1	43.9	4.7	4.7	0	0.0	6.9	6.9	7	7.0	0.51	0.51	14	14.0
			20.9		4.1		43.6		4.6		6.9		7		0.51		14			
W2	10:35	0.10	21.2	21.2	4.34	4.31	45.7	45.4	4.5	4.5	0	0.0	6.9	6.9	10	10.0	0.35	0.35	12	12.0
			21.2		4.27		45.0		4.5		6.9		10		0.35		12			
W3	10:20	0.21	21.4	21.4	3.89	3.93	40.6	40.9	37.7	37.5	0	0.0	7	7.0	52	52.0	9.32	9.32	48	48.0
			21.4		3.96		41.2		37.2		7		52		9.32		48			
W4	10:10	0.16	20.7	20.7	2.26	2.35	24.7	25.5	8.0	8.1	0	0.0	7.3	7.3	7	7.0	4.49	4.49	32	32.0
			20.7		2.44		26.3		8.2		7.3		7		4.49		32			
W5	10:05	0.10	21.8	21.8	4.06	4.01	42.7	42.0	5.2	5.1	0	0.0	6.8	6.8	<2	2.0	9.65	9.65	18	18.0
			21.8		3.96		41.3		5.0		6.8		<2		9.65		18			
W6	09:55	0.28	22.3	22.3	3.28	3.31	34.6	34.9	33.4	33.7	0	0.0	7.2	7.2	51	51.0	8.63	8.63	56	56.0
			22.3		3.34		35.2		34.0		7.2		51		8.63		56			

Date 28-Mar-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	11:35	0.11	21.6	21.6	3.89	3.91	40.3	41.0	4.3	4.2	0	0.0	7	7.0	10	10.0	0.51	0.51	<10	#DIV/0!
			21.6		3.93		41.7		4.0		7		10		0.51		<10			
W2	11:40	0.13	21.7	21.7	4.16	4.13	43.7	43.4	4.1	4.1	0	0.0	7	7.0	11	11.0	0.2	0.20	14	14.0
			21.7		4.1		43.0		4.1		7		11		0.2		14			
W3	11:25	0.20	22.0	22.0	3.84	3.82	40.3	40.0	40.3	40.0	0	0.0	7.3	7.3	59	59.0	8.58	8.58	55	55.0
			22.0		3.8		39.8		39.7		7.3		59		8.58		55			
W4	11:10	0.14	21.4	21.4	2.34	2.39	25.8	26.3	19.7	19.5	0	0.0	6.8	6.8	3	3.0	4.42	4.42	32	32.0
			21.4		2.43		26.7		19.2		6.8		3		4.42		32			
W5	11:05	0.09	22.3	22.3	3.71	3.74	39.8	40.2	11.8	11.5	0	0.0	7.1	7.1	3	3.0	10.1	10.10	20	20.0
			22.3		3.76		40.6		11.2		7.1		3		10.1		20			
W6	10:55	0.26	22.8	22.8	3.23	3.20	34.6	33.8	36.1	35.6	0	0.0	7.2	7.2	53	53.0	8.46	8.46	54	54.0
			22.8		3.17		33.0		35.0		7.2		53		8.46		54			

Date 30-Mar-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	11:40	0.11	22.0	22.0	4.2	4.24	44.8	45.3	2.7	2.7	0	0.0	6.8	6.8	2	2.0	0.22	0.22	<10	#DIV/0!
			22.0		4.28		45.7		2.6		6.8		2		0.22		<10			
W2	11:45	0.12	22.2	22.2	4.49	4.51	46.8	47.2	3.3	3.4	0	0.0	6.9	6.9	2	2.0	0.23	0.23	15	15.0
			22.2		4.53		47.5		3.5		6.9		2		0.23		15			
W3	11:30	0.23	21.8	21.8	3.86	3.82	40.7	40.4	32.6	32.4	0	0.0	7.2	7.2	36	36.0	4.45	4.45	36	36.0
			21.8		3.78		40.0		32.2		7.2		36		4.45		36			
W4	11:20	0.16	21.5	21.5	2.16	2.20	23.8	24.2	6.0	6.2	0	0.0	6.8	6.8	5	5.0	4.51	4.51	27	27.0
			21.5		2.24		24.6		6.3		6.8		5		4.51		27			
W5	11:15	0.10	22.5	22.5	4.18	4.16	44.1	43.8	12.0	11.8	0	0.0	7.1	7.1	8	8.0	9.81	9.81	31	31.0
			22.5		4.13		43.4		11.5		7.1		8		9.81		31			
W6	11:05	0.27	22.8	22.8	3.47	3.45	37.5	37.3	30.7	30.3	0	0.0	7.2	7.2	30	30.0	4.25	4.25	41	41.0
			22.8		3.43		37.0		29.8		7.2		30		4.25		41			

Date 1-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	16:30	0.13	22.6	22.6	3.73	3.75	40.1	40.5	4.6	4.4	0	0.0	7.1	7.1	3	3.0	0.3	0.30	10	10.0
			22.6		3.77		40.8		4.2		7.1		3		0.3		10			
W2	16:35	0.11	22.3	22.5	4.03	4.00	43.4	42.9	5.6	5.5	0	0.0	7	7.0	3	3.0	0.29	0.29	10	10.0
			22.6		3.96		42.4		5.3		7		3		0.29		10			
W3	16:20	0.19	21.8	21.8	2.89	2.92	30.8	31.3	29.7	29.5	0	0.0	7	7.0	26	26.0	3.79	3.79	35	35.0
			21.8		2.95		31.7		29.2		7		26		3.79		35			
W4	16:10	0.15	21.3	21.3	2.31	2.34	25.3	25.6	18.6	18.4	0	0.0	6.8	6.8	10	10.0	5.56	5.56	19	19.0
			21.3		2.36		25.8		18.2		6.8		10		5.56		19			
W5	16:05	0.09	21.9	21.9	4.01	3.97	43.4	42.8	12.6	12.2	0	0.0	6.9	6.9	6	6.0	7.87	7.87	18	18.0
			21.9		3.93		42.2		11.8		6.9		6		7.87		18			
W6	16:00	0.26	22.9	22.9	3.52	3.55	38.3	39.1	24.5	25.4	0	0.0	7.1	7.1	24	24.0	4.12	4.12	32	32.0
			22.9		3.58		39.8		26.3		7.1		24		4.12		32			

Date 3-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	14:25	0.10	18.6	18.6	4.87	4.83	50.6	50.1	2.4	2.4	0	0.0	6.8	6.8	2	2.0	0.36	0.36	<10	10.0
			18.6		4.79		49.6		2.3		6.8		2		0.36		<10			
W2	14:30	0.13	18.9	18.9	4.61	4.65	48.5	48.9	2.1	2.1	0	0.0	6.8	6.8	<2	2.0	0.29	0.29	<10	10.0
			18.9		4.68		49.3		2.0		6.8		<2		0.29		<10			
W3	14:15	0.24	19.3	19.3	3.26	3.25	34.6	34.3	29.7	29.6	0	0.0	7	7.0	25	25.0	6.99	6.99	34	34.0
			19.3		3.23		34.0		29.4		7		25		6.99		34			
W4	14:05	0.17	18.5	18.5	2.71	2.68	30.1	29.8	11.6	11.5	0	0.0	6.7	6.7	6	6.0	6.59	6.59	16	16.0
			18.5		2.65		29.4		11.3		6.7		6		6.59		16			
W5	14:00	0.08	18.7	18.7	3.88	3.91	40.6	41.0	31.2	31.1	0	0.0	6.9	6.9	47	47.0	9.47	9.47	255	255.0
			18.7		3.93		41.3		31.0		6.9		47		9.47		255			
W6	13:55	0.33	19.6	19.6	3.43	3.47	37.2	37.7	26.8	27.0	0	0.0	6.9	6.9	26	26.0	7.1	7.10	34	34.0
			19.6		3.5		38.1		27.1		6.9		26		7.1		34			

Summary of Water Quality Monitoring Results - KT13

Date 6-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS	Ammonia N		Zinc		
W1	11:40	0.12	20.8	20.8	4.84	4.82	50.3	50.0	9.2	9.1	0	0.0	6.8	6.8	12	12.0	0.4	0.40	18	18.0
			20.8		4.8		49.7		9.0		6.8		12		0.4		18			
W2	11:45	0.13	21.2	21.2	4.64	4.62	48.1	47.8	11.4	11.3	0	0.0	6.8	6.8	12	12.0	0.32	0.32	16	16.0
			21.2		4.6		47.5		11.1		6.8		12		0.32		16			
W3	11:30	0.18	21.5	21.5	2.23	2.20	24.4	24.1	111.0	112.5	0	0.0	7	7.0	96	96.0	3.04	3.04	188	188.0
			21.5		2.17		23.7		114.0		7		96		3.04		188			
W4	11:20	0.14	20.4	20.4	1.89	1.91	20.6	20.8	28.0	28.2	0	0.0	6.7	6.7	6	6.0	3.74	3.74	52	52.0
			20.4		1.93		21.0		28.4		6.7		6		3.74		52			
W5	11:15	0.08	21.8	21.8	4.05	4.07	41.8	42.1	12.0	12.2	0	0.0	7.1	7.1	14	14.0	8.09	8.09	35	35.0
			21.8		4.09		42.4		12.4		7.1		14		8.09		35			
W6	11:10	0.24	22.2	22.2	3.8	3.83	40.3	40.8	129.0	128.3	0	0.0	7	7.0	97	97.0	3.11	3.11	173	173.0
			22.2		3.86		41.2		127.5		7		97		3.11		173			

Date 8-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS	Ammonia N		Zinc		
W1	11:10	0.11	23.6	23.6	4.23	4.26	44.8	45.1	2.9	2.9	0	0.0	6.9	6.9	2	2.0	0.22	0.22	<10	10.0
			23.6		4.28		45.4		2.8		6.9		2		0.22		<10			
W2	11:15	0.11	23.8	23.8	4.47	4.44	47.3	47.0	3.7	3.6	0	0.0	6.9	6.9	<2	2.0	0.21	0.21	<10	10.0
			23.8		4.41		46.6		3.5		6.9		<2		0.21		<10			
W3	11:00	0.16	23.3	23.3	3.89	3.86	41.3	40.9	40.8	41.1	0	0.0	7	7.0	19	19.0	4.27	4.27	42	42.0
			23.3		3.82		40.4		41.3		7		19		4.27		42			
W4	10:50	0.15	22.8	22.8	2.05	2.09	23.1	23.6	12.6	12.4	0	0.0	6.8	6.8	2	2.0	4.37	4.37	17	17.0
			22.8		2.12		24.0		12.2		6.8		2		4.37		17			
W5	10:45	0.09	23.6	23.6	4.08	4.11	42.6	43.1	17.3	17.0	0	0.0	6.9	6.9	3	3.0	4	4.25	14	14.0
			23.6		4.14		43.6		16.6		6.9		3		4.5		14			
W6	10:40	0.23	24.2	24.2	3.83	3.85	40.3	40.6	44.0	43.1	0	0.0	6.9	6.9	22	22.0	3.98	3.98	38	38.0
			24.2		3.86		40.8		43.1		6.9		22		3.98		38			

Date 14-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS	Ammonia N		Zinc		
W1	11:20	0.12	21.4	21.4	3.62	3.58	38.8	38.4	12.6	12.5	0	0.0	6.8	6.8	32	32.0	0.16	0.16	12	12.0
			21.4		3.54		38.0		12.4		6.8		32		0.16		12			
W2	11:25	0.10	21.5	21.5	3.87	3.86	41.1	40.9	31.4	31.2	0	0.0	7	7.0	57	57.0	0.31	0.31	55	55.0
			21.5		3.84		40.6		31.0		7		57		0.31		55			
W3	11:10	0.17	21.8	21.8	3.14	3.17	33.1	33.4	31.9	31.8	0	0.0	7.1	7.1	28	28.0	12.8	12.80	36	36.0
			21.8		3.2		33.6		31.6		7.1		28		12.8		36			
W4	11:00	0.14	21.0	21.0	2.41	2.38	26.4	26.1	17.0	16.7	0	0.0	6.8	6.8	10	10.0	6.81	6.81	15	15.0
			21.0		2.35		25.7		16.4		6.8		10		6.81		15			
W5	10:55	0.09	22.1	22.1	4.01	3.99	42.6	42.2	21.1	20.8	0	0.0	7.1	7.1	11	11.0	8.96	8.96	16	16.0
			22.1		3.96		41.8		20.5		7.1		11		8.96		16			
W6	10:50	0.27	22.3	22.3	3.56	3.54	37.5	37.2	37.1	37.2	0	0.0	7	7.0	28	28.0	12.6	12.60	38	38.0
			22.3		3.51		36.9		37.3		7		28		12.6		38			

Date 16-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS	Ammonia N		Zinc		
W1	11:35	0.10	23.6	23.6	5.28	5.30	55.3	55.5	3.1	3.2	0	0.0	6.8	6.8	5	5.0	0.19	0.19	12	12.0
			23.6		5.31		55.7		3.3		6.8		5		0.19		12			
W2	11:40	0.11	23.7	23.7	5.44	5.42	57.6	57.3	2.8	2.9	0	0.0	7	7.0	<2	2.0	0.22	0.22	<10	10.0
			23.7		5.4		57.0		2.9		7		<2		0.22		<10			
W3	11:25	0.17	23.4	23.4	2.64	2.67	29.3	29.0	31.3	31.2	0	0.0	7.1	7.1	24	24.0	5.66	5.66	52	52.0
			23.4		2.69		28.7		31.0		7.1		24		5.66		52			
W4	11:10	0.14	23.1	23.1	3.17	3.16	33.5	33.3	17.3	17.1	0	0.0	6.7	6.7	8	8.0	10	10.00	30	30.0
			23.1		3.14		33.0		16.8		6.7		8		10		30			
W5	11:00	0.08	23.7	23.7	2.9	2.94	31.4	31.8	13.7	13.5	0	0.0	6.9	6.9	<2	2.0	0.93	0.93	12	12.0
			23.7		2.97		32.2		13.3		6.9		<2		0.93		12			
W6	10:55	0.29	24.0	24.0	4.11	4.06	43.6	42.8	27.4	27.2	0	0.0	7.1	7.1	29	29.0	4.88	4.88	50	50.0
			24.0		4.01		42.0		27.0		7.1		29		4.88		50			

Date 18-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS	Ammonia N		Zinc		
W1	10:30	0.12	22.7	22.7	4.87	4.85	50.8	50.4	3.6	3.5	0	0.0	6.9	6.9	3	3.0	0.21	0.21	<10	10.0
			22.7		4.83		50.0		3.3		6.9		3		0.21		<10			
W2	10:40	0.15	22.9	22.9	4.97	4.95	51.7	51.4	3.0	3.0	0	0.0	6.9	6.9	4	4.0	0.18	0.18	12	12.0
			22.9		4.93		51.1		2.9		6.9		4		0.18		12			
W3	10:20	0.19	22.8	22.8	2.87	2.85	30.6	30.4	20.3	20.2	0	0.0	7.1	7.1	29	29.0	2.53	2.53	40	40.0
			22.8		2.82		30.1		20.0		7.1		29		2.53		40			
W4	10:10	0.16	22.4	22.4	2.44	2.42	26.8	26.6	17.3	17.2	0	0.0	6.7	6.7	8	8.0	12.6	12.60	34	34.0
			22.4		2.4		26.3		17.0		6.7		8		12.6		34			
W5	10:05	0.12	23.6	23.6	3.69	3.71	39.7	40.0	9.7	9.6	0	0.0	6.9	6.9	5	5.0	1	1.00	15	15.0
			23.6		3.73		40.3		9.5		6.9		5		1		15			
W6	10:10	0.27	23.8	23.8	3.51	3.48	3.7	3.7	26.9	26.4	0	0.0	7.1	7.1	20	20.0	3.27	3.27	41	41.0
			23.8		3.44		3.6		26.4		7.1		20		3.27		41			

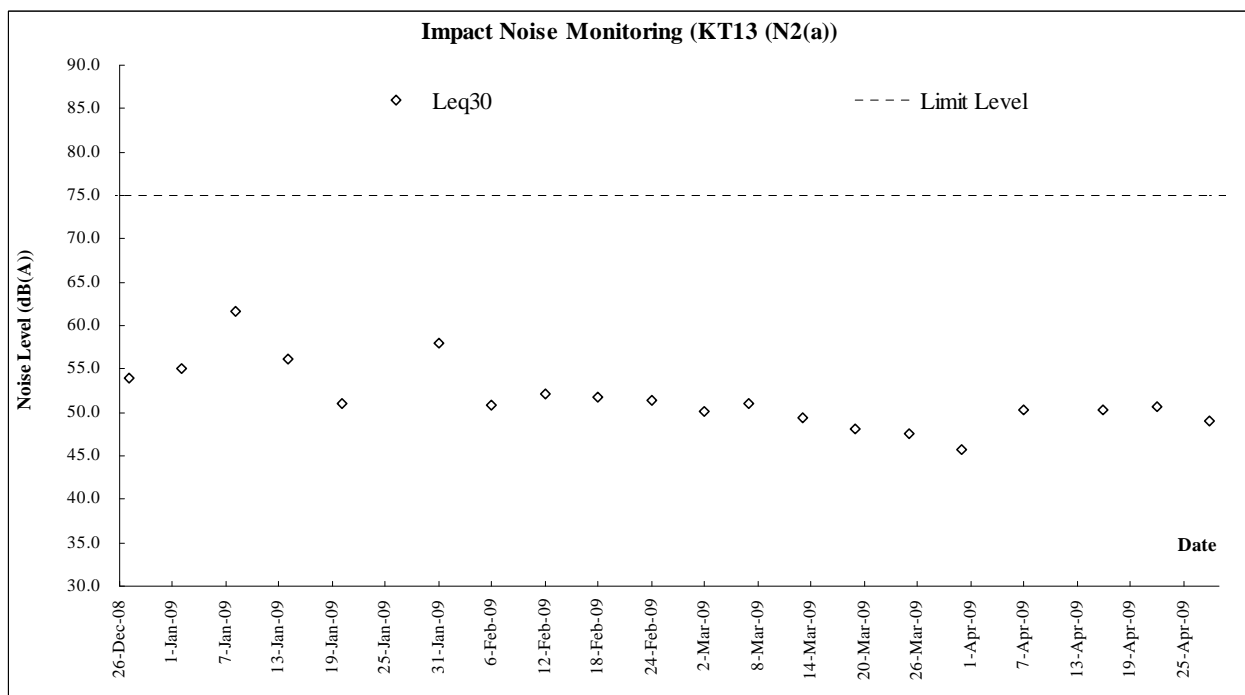
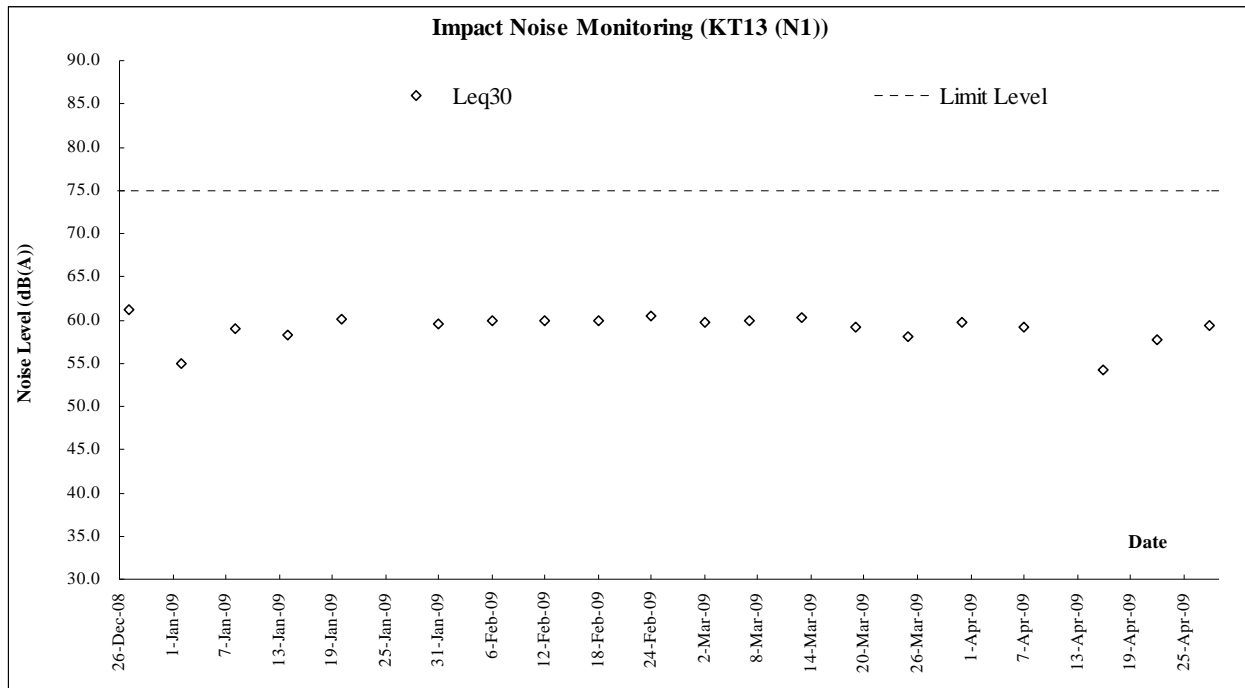
Summary of Water Quality Monitoring Results - KT13

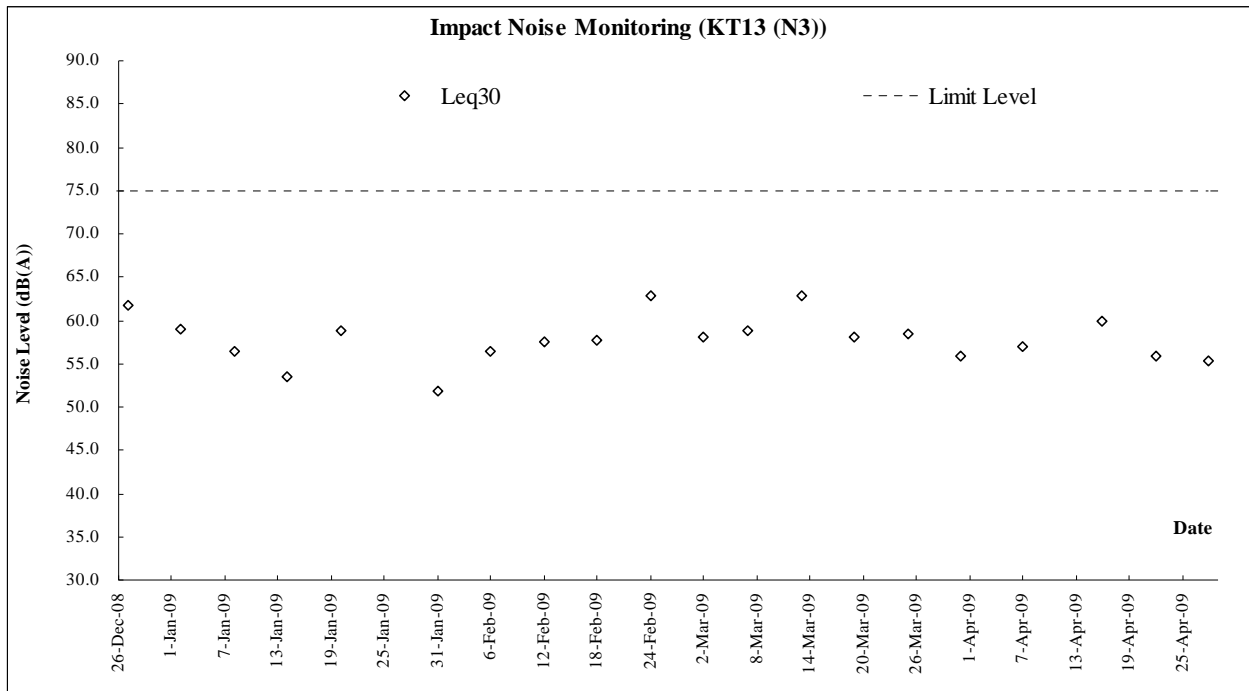
Date 20-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	11:00	0.12	24.1	24.1	4.17	4.15	43.6	43.4	4.0	4.1	0	0.0	7.1	7.1	3	3.0	0.4	0.40	<10	10.0
			24.1		4.13		43.1		4.2		7.1		3		0.4		<10			
W2	11:10	0.14	24.2	24.2	4.26	4.30	44.8	45.1	3.4	3.3	0	0.0	7.1	7.1	3	3.0	0.54	0.54	<10	10.0
			24.2		4.34		45.4		3.2		7.1		3		0.54		<10			
W3	10:50	0.17	23.9	23.9	3.86	3.80	40.3	39.9	24.8	24.7	0	0.0	7	7.0	42	42.0	4.41	4.41	61	61.0
			23.9		3.74		39.4		24.5		7		42		4.41		61			
W4	10:40	0.15	23.5	23.5	2.54	2.53	28.1	27.9	17.2	17.1	0	0.0	6.8	6.8	5	5.0	4.67	4.67	22	22.0
			23.5		2.51		27.7		17.0		6.8		5		4.67		22			
W5	10:35	0.08	24.3	24.3	4.08	4.12	42.6	43.0	8.3	8.5	0	0.0	6.9	6.9	<2	#DIV/0!	1.89	1.89	13	13.0
			24.3		4.15		43.3		8.6		6.9		<2		1.89		13			
W6	10:30	0.24	24.6	24.6	3.91	3.89	41.7	41.4	27.2	26.9	0	0.0	7.2	7.2	32	32.0	3.97	3.97	48	48.0
			24.6		3.87		41.1		26.5		7.2		32		3.97		48			

Date 22-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	16:20	0.13	23.6	23.6	4.21	4.19	44.6	44.3	2.6	2.6	0	0.0	6.9	6.9	<2	2.0	0.27	0.27	10	10.0
			23.6		4.16		44.0		2.6		6.9		<2		0.27		10			
W2	16:30	0.15	23.5	23.5	4.38	4.36	45.6	45.3	2.9	2.9	0	0.0	6.9	6.9	3	3.0	0.25	0.25	<10	10.0
			23.5		4.34		44.9		2.9		6.9		3		0.25		<10			
W3	16:05	0.19	23.3	23.3	3.21	3.23	34.9	35.1	23.3	23.2	0	0.0	7	7.0	15	15.0	4.79	4.79	24	24.0
			23.3		3.24		35.3		23.1		7		15		4.79		24			
W4	15:55	0.14	22.9	22.9	2.13	2.14	23.7	23.8	14.7	14.5	0	0.0	6.7	6.7	8	8.0	3.01	3.01	15	15.0
			22.9		2.14		23.8		14.2		6.7		8		3.01		15			
W5	15:50	0.10	23.8	23.8	4.47	4.44	50.0	49.6	8.4	8.7	0	0.0	6.8	6.8	8	8.0	2.49	2.49	56	56.0
			23.8		4.41		49.1		8.9		6.8		8		2.49		56			
W6	15:45	0.23	23.6	23.6	3.72	3.71	39.8	39.7	20.3	20.2	0	0.0	7.1	7.1	21	21.0	4.31	4.31	29	29.0
			23.6		3.7		39.5		20.0		7.1		21		4.31		29			

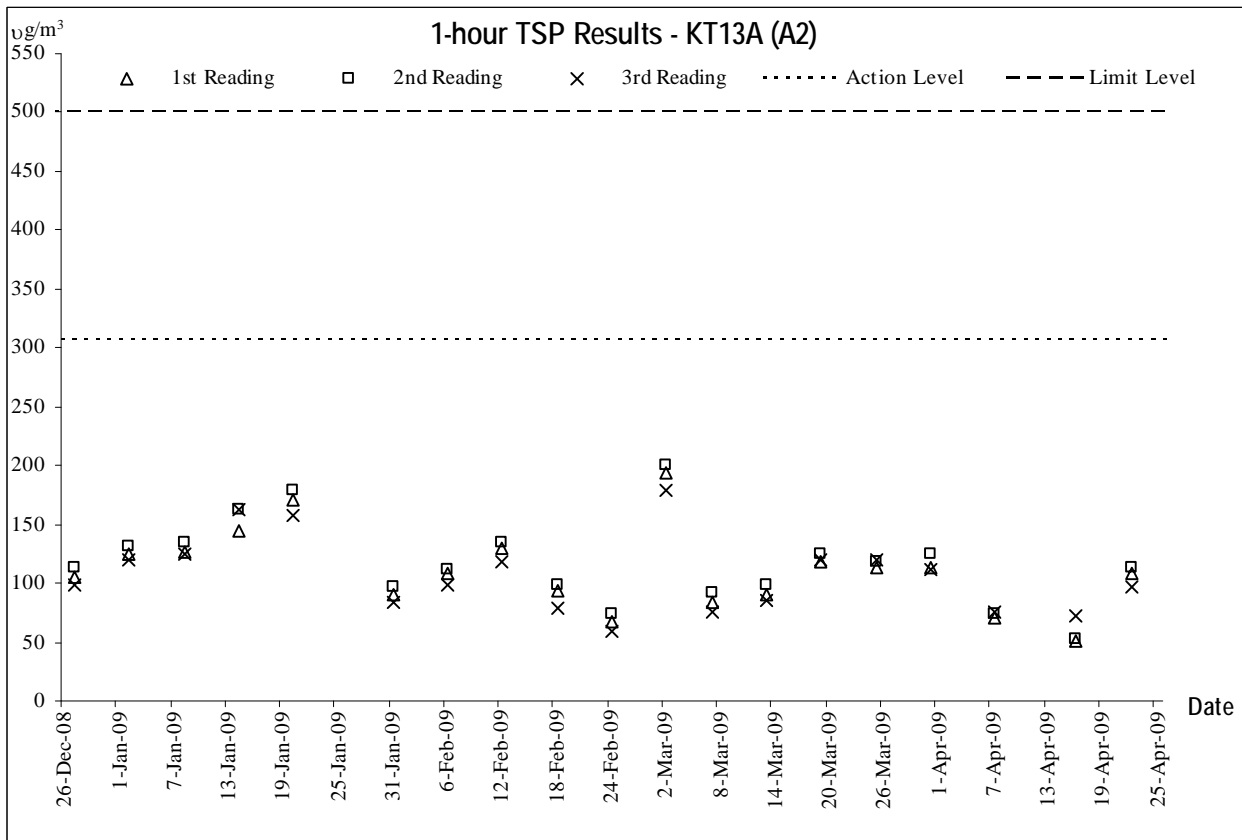
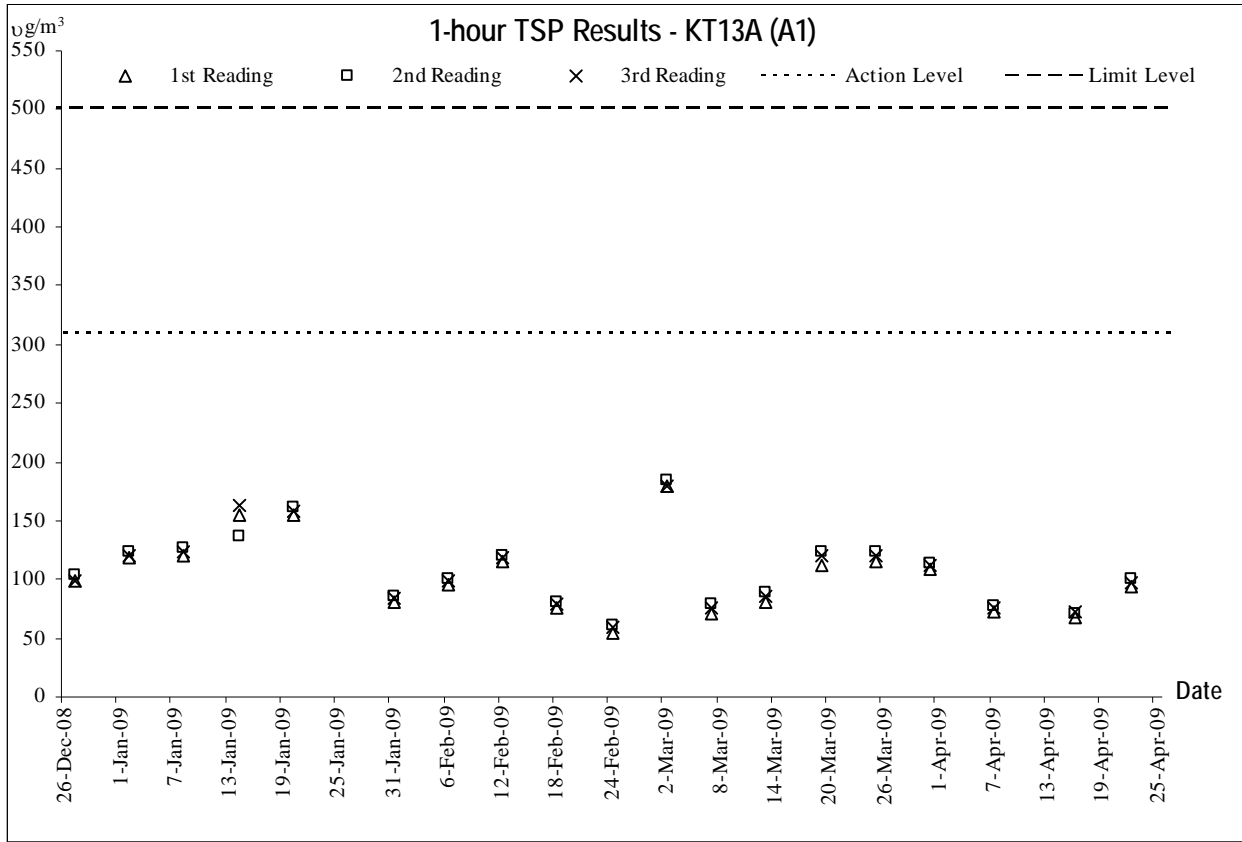
Date 24-Apr-09																				
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pH		SS		Ammonia N		Zinc	
W1	10:20	0.14	25.8	25.8	4.09	4.09	43.2	42.8	2.5	2.5	0	0.0	7	7.0	6	6.0	0.63	0.63	<10	10.0
			25.8		4.03		42.4		2.4		7		6		0.63		<10			
W2	10:30	0.14	25.9	25.9	4.18	4.16	44.2	43.9	2.6	2.6	0	0.0	7	7.0	6	6.0	0.64	0.64	<10	10.0
			25.9		4.14		43.6		2.6		7		6		0.64		<10			
W3	10:10	0.21	25.6	25.6	3.64	3.61	38.9	38.5	23.4	23.3	0	0.0	6.9	6.9	18	18.0	8.61	8.61	32	32.0
			25.6		3.57		38.1		23.1		6.9		18		8.61		32			
W4	10:00	0.16	24.8	24.8	2.54	2.56	27.3	27.6	18.3	18.2	0	0.0	7.2	7.2	5	5.0	4.57	4.57	15	15.0
			24.8		2.58		27.9		18.0		7.2		5		4.57		15			
W5	09:55	0.10	25.3	25.3	3.18	3.12	33.6	32.9	10.6	10.4	0	0.0	7.1	7.1	3	3.0	3.54	3.54	20	20.0
			25.3		3.06		32.1		10.1		7.1		3		3.54		20			
W6	09:50	0.26	25.7	25.7	3.84	3.83	40.6	40.3	25.8	25.6	0	0.0	7	7.0	6	6.0	9.06	9.06	35	35.0
			25.7		3.81		40.0		25.4		7		6		9.06		35			

## Graphic Plot of Monitoring - Construction Noise

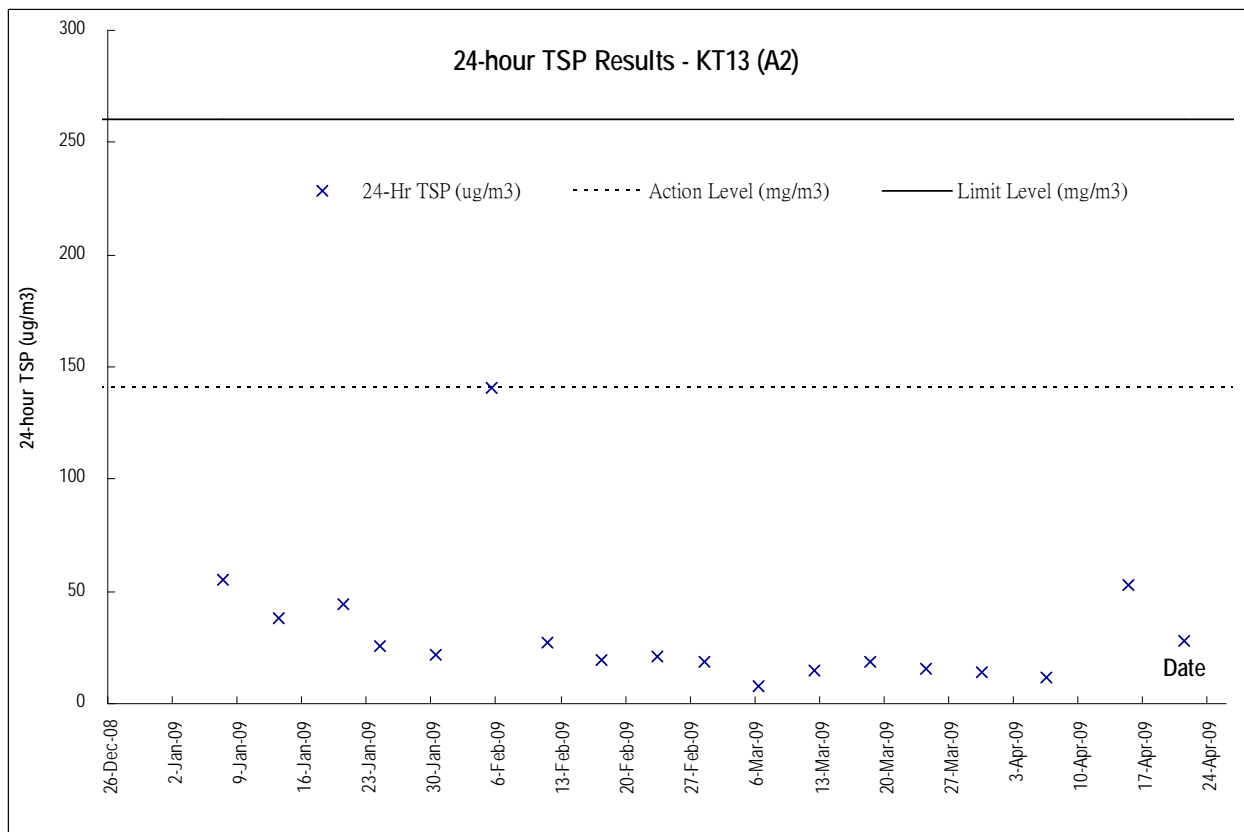
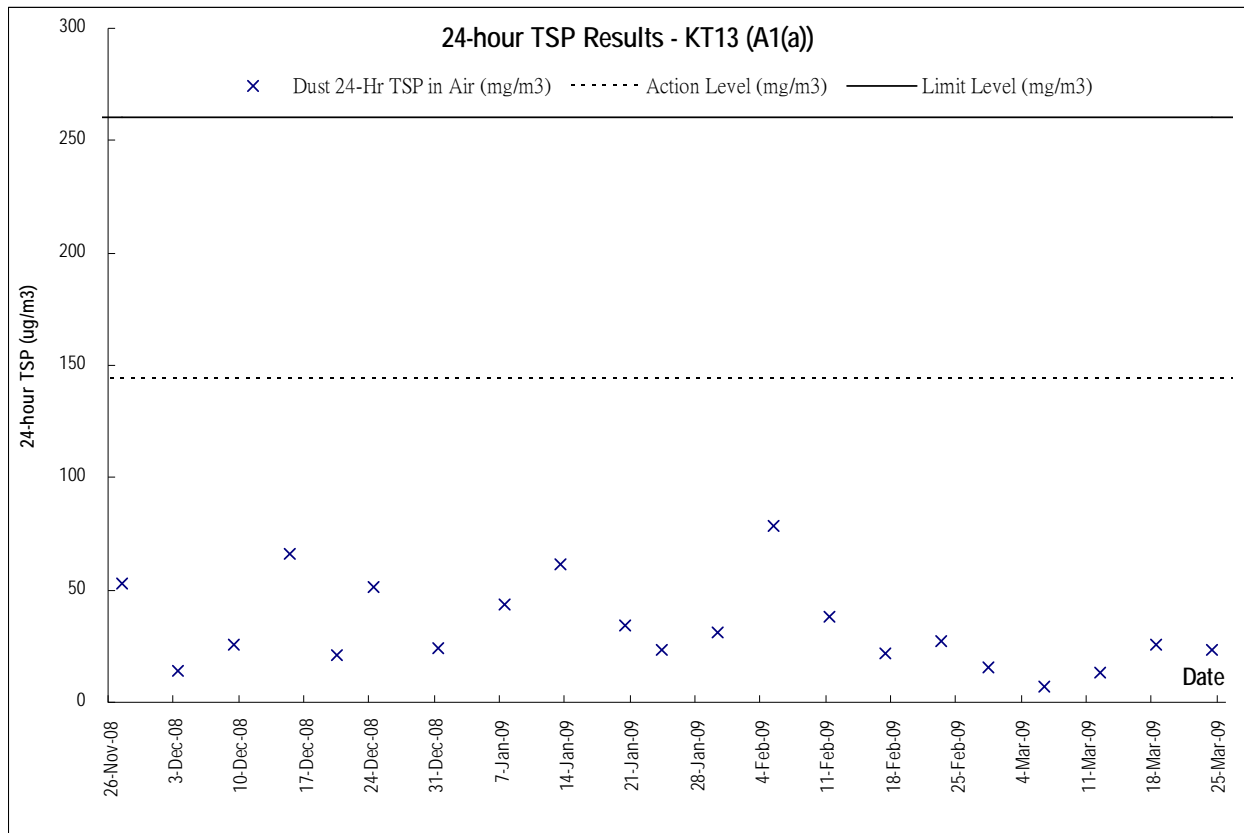




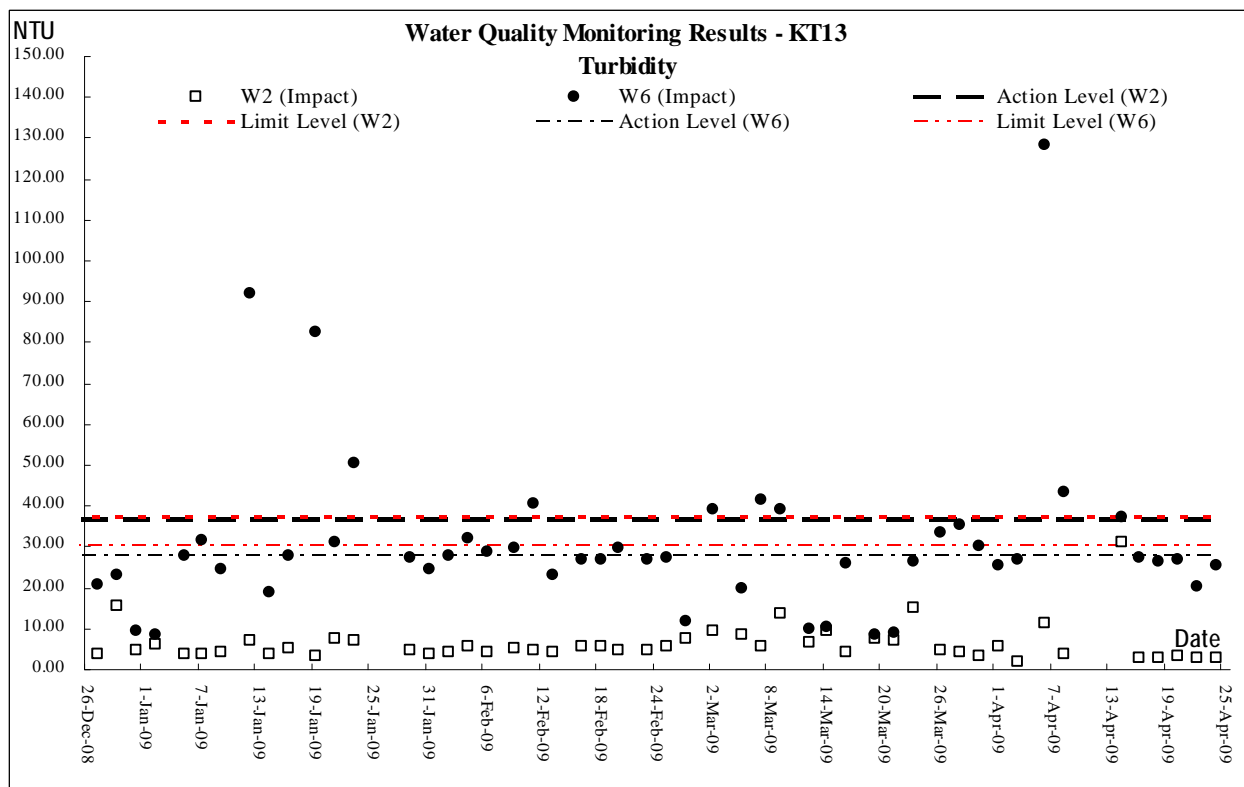
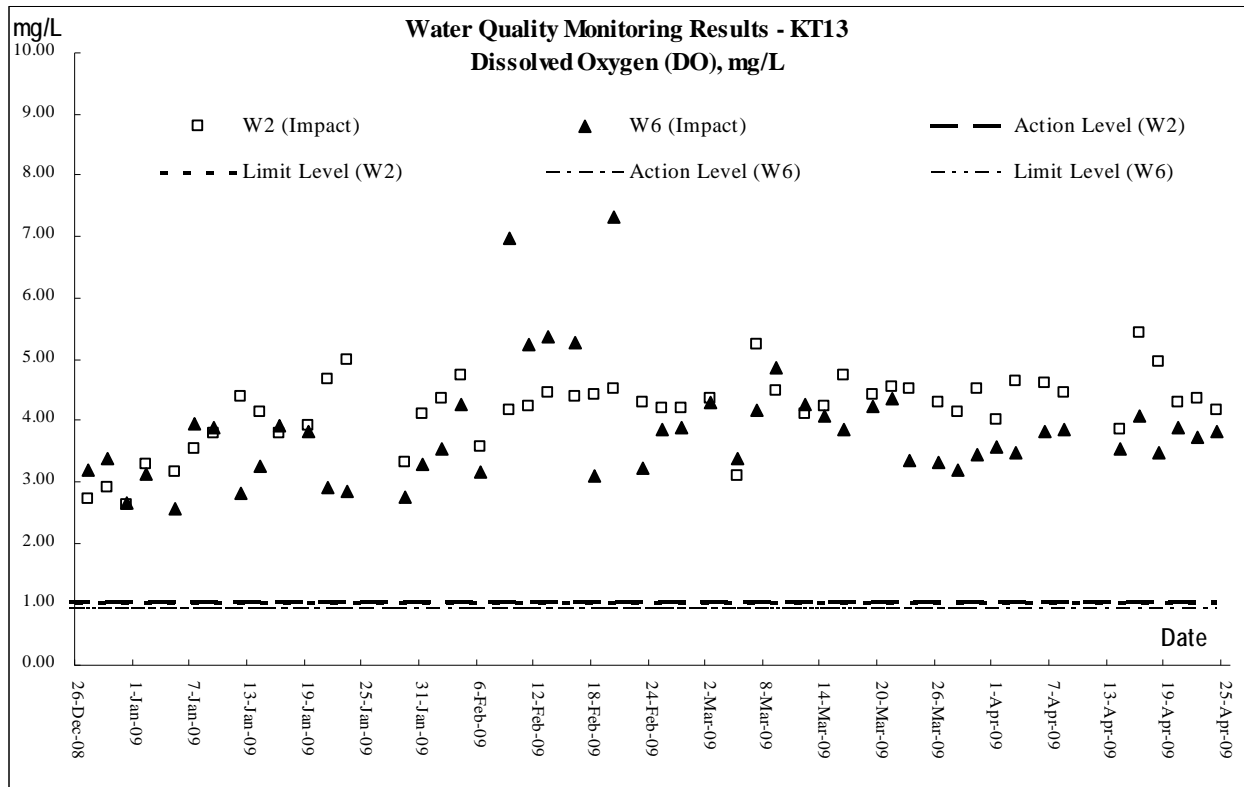
### Graphic Plot of Monitoring – Air Quality

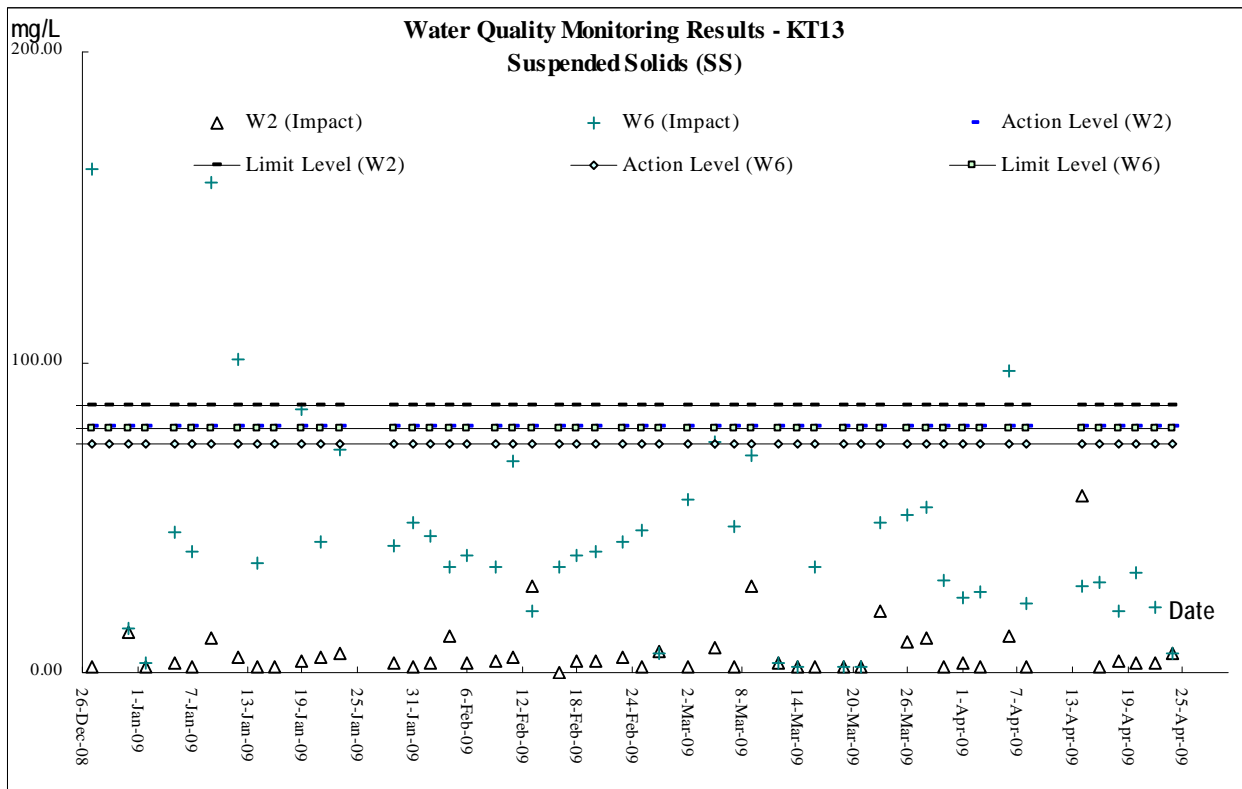
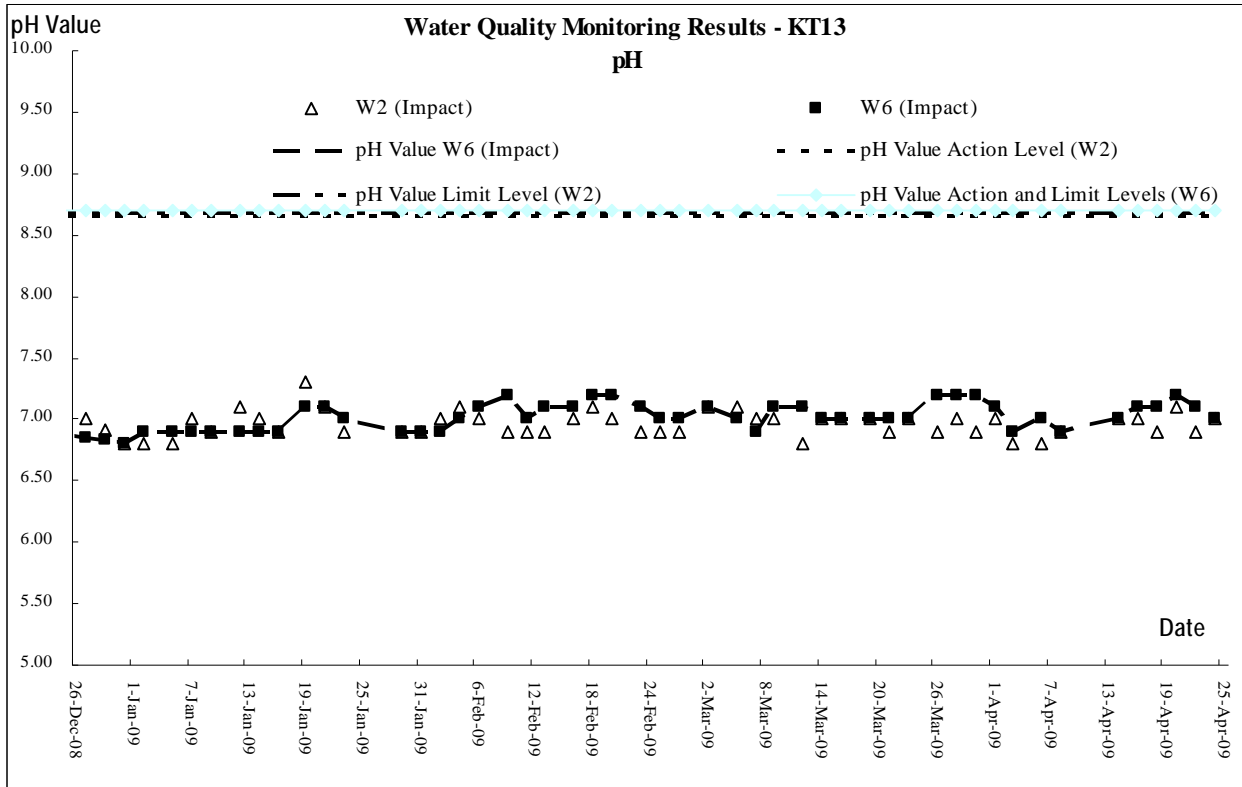


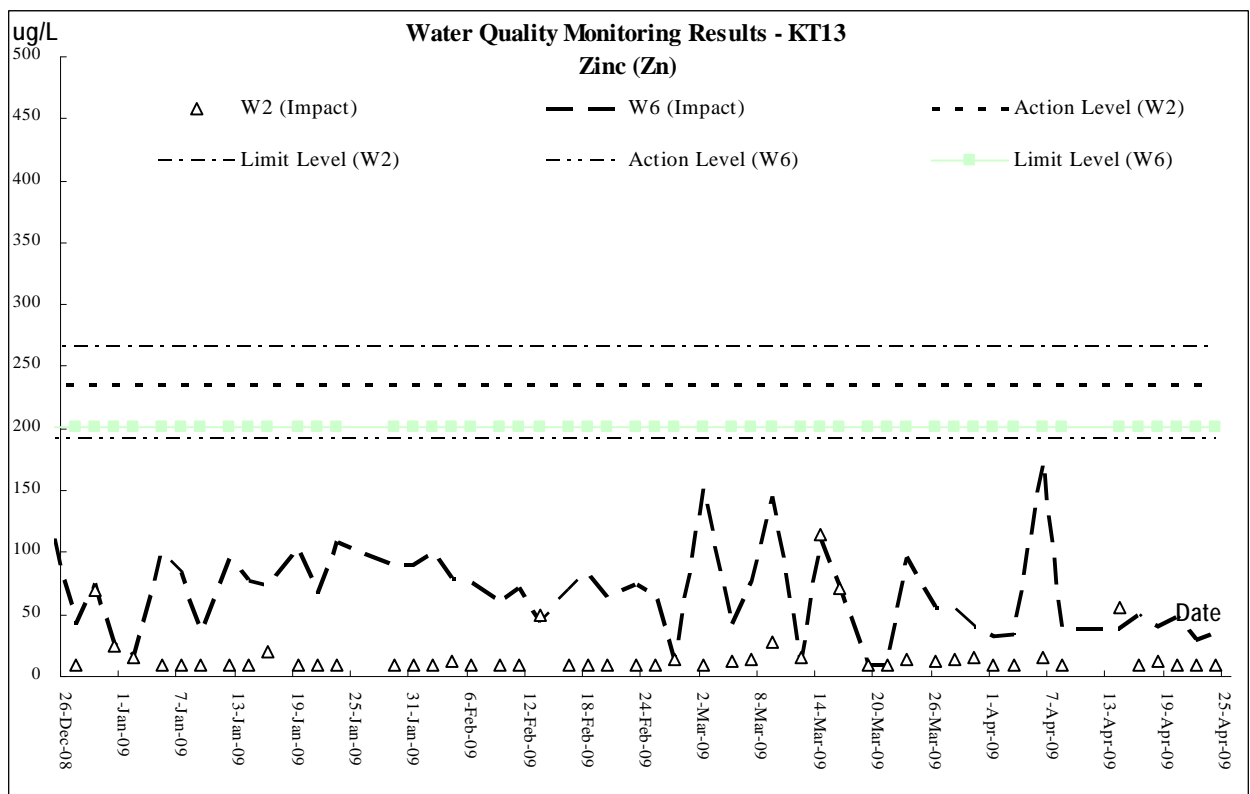
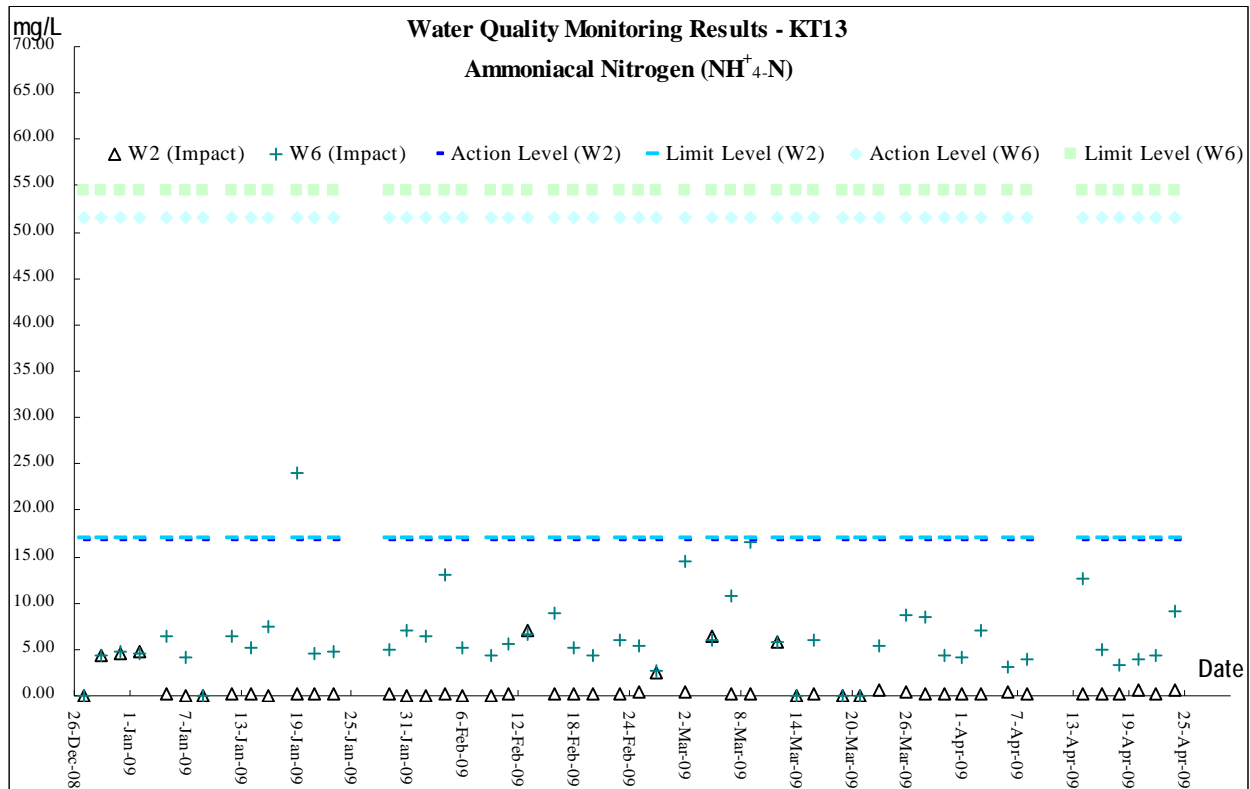




## Graphic Plot of Monitoring –Water Quality







**Appendix H**

**Photographic Records of**

**Ecological Monitoring of Vegetation**

**(Not Used)**

## **Appendix I**

### **Physical, Human and Cultural Landscape Resources at KT13**

**Current Situation of Physical, Human and Cultural Landscape Resources at KT13, inspected on 6 and 20 April 2009**

The physical resources that will be affected during the Construction Phase and Operational Phase, together with their sensitivity to change, are described below. The locations of the baseline landscape resources are mapped in Drawing no. LR-001. The Landscape Resources in direct conflict with the Project are mapped together with their extent outside study boundary for integrity of information. Photo views illustrating the landscape resources of the study area are illustrated in Drawing Nos. PR-001 to 002 inclusive. For ease of reference and co-ordination between text, tables and figures each landscape resources is given an identity number.

Table compares the baseline study and the current situation for KT13: (Landscape Resources)

Section in EIA Report	Identify number – Landscape Resources	Photo No	Baseline Study, Environmental Impact Assessment Final Report [382047/E/EIA/Issue 9]	Current Situation
<b>Drainage</b>				
10.7.3	LR1 – River/ Stream	A1 - A5	There is a semi-natural drainage features (the Ma On Kong Channel) in the study area with untrained natural upstream and partial trained downstream with a total length of 800m. The Channel originates from the South-West of the valley and discharge to the existing Primary Channel by Kam Ho Road running through and along the site area spanning across majority of the river valley, together with the existing vegetations forming the central part of riparian landscape network. They have medium landscape value and sensitive to change.	Minor change due to site clearance and preparation work within site boundary
<b>Fish Pond</b>				
10.7.4	LR2.1 (Fish Pond) within site boundary LR2.2 (Fish Pond) outside site boundary	A6 A7	There are 4 numbers of fallowed fish ponds at the upstream of the Ma On Kong Channel. A chain of fish ponds near downstream but distant from the Channel is noted. The fish ponds cover area of in total 23,000 m2. Most of them are heavily colonized by aquatic plants, which attribute to their low visual quality as a water landscape element. They have low landscape value and sensitive to change.	Minor change due to site clearance and preparation work within site boundary



## Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

<b>Marsh</b>				
10.7.5	LR3 (Marsh)	A8	It comprises 2 marshes at the upstream channel of the Channel. They are inundated lowland heavily colonized with wetland aquatic plants. They have low landscape value and sensitive to change.	Remain the same as the baseline
<b>Vegetation</b>				
10.7.7	LR4 (Woodland/ Wooded Area)	A9 A10	It comprises two major communities of woodland/ wooded area. One is dense natural woodland stretching across the Conservation Area and area behind Ma On Kong and consists approximate 450 numbers of trees based on visual estimation. The trees are mainly native species and mature in size. It is dominated by <i>Schefflera octophylla</i> , <i>Pinus massoniana</i> , <i>Aporosa chinensis</i> , <i>Celtis sinensis</i> , <i>Bridelia tomentosa</i> , <i>Cinnamomum cmaphora</i> , <i>Rhus chinensis</i> and <i>Phus succedanes</i> . Another one is a natural more sparse riparian wooded area at upstream of the Channel and consists approximate 60 numbers of trees based on visual estimation. The trees are mainly pioneer species and poorer in form and maturity. It is dominated by <i>Ficus hispide</i> and <i>Macaranga tanarius</i> . They have high landscape value and sensitivity to change.	Remain the same as the baseline
10.7.8	LR5 (Orchard/ Horticultural Trees)	A11	It comprises two groups of trees at downstream below Ma On Kong and north of Ho Pui Amongst there are approximate 400 numbers of trees based on visual estimation. They are fruit trees and landscape plants of horticultural practices. It is dominated by <i>Dimocarpus longan</i> , <i>Delonix regian</i> , <i>Roystonea regia</i> and <i>Pachira macrocarpa</i> . For their anthropogenic and not permanent in nature, they have medium landscape value and sensitivity to change.	Remain the same as the baseline
10.7.9	LR6 (Low-Lying Agricultural Land/ Fallowed Land)	A12	It comprises fallowed land and agricultural land in low rate of uses. The vegetation is mainly grass and sedge with mosaics of shrubs approaching the Channel. It fills up the about half of the existing landscape within the study area. They have low landscape value and sensitivity to change.	Remain the same as the baseline.

Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

<b>Sitting-Out Area</b>				
10.7.10	LR7 (Sitting-Out Area at Ma On Kong)	A13	It is located at the Ma On Kong next to the access road. It is a small sitting-out area primarily hard-paved with only 3 amenity trees and on pavilion. It has low landscape value and sensitivity to change.	Remain the same as the baseline
<b>Landscape Character Areas</b>				
10.7.12	LCA1 (Agricultural Landscape Character Area)	B1 & B2	This comprises fallowed land & agricultural land not in active uses. This character area is flat and gentle sloping in landform and vegetated with grass of various heights. It forms the majority of the landscape character of the entire river valley and the connecting landscape element between other landscape character areas. The sensitivity to change of this area is low.	Minor change due to invasion of cows. Some of the grass on the land were consumed.
10.7.13	LCA2 (Woodland Landscape Character Area)	B3	This is natural woodland between southern Ma On Kong and the Channel extending up to the access road behind Ma On Kong. The trees are mature in size forming a close woodland landscape. It is the location of egret of conservation importance. The sensitivity to change of this area is high.	Remain the same as the baseline
10.7.14	LCA3 (River/ Stream Landscape Character Area)	B4 ~ B7	This is the main stream of the Channel in associate with its riparian vegetation. It meanders through the river valley landscape. It is used as a receptor of agricultural effluent from poultry farm around upstream, which contribute to the polluted appearance of the character area around upstream. The sensitivity to change of this area is medium.	Minor change due to site clearance and preparation work within site boundary
10.7.15	LCA4 (Fish Pond Landscape Area)	B8	This comprises a number of fish ponds of various sizes distributed about the Channel. Most of them are abandoned or with limited uses and colonized with aquatic plants. The sensitivity to change of this area is medium.	Minor change due to construction of structures within site

Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

10.7.16	LCA5 (Village Landscape Character Area)	B9 & B10	This comprises the four major village types rural settlement encompassing tai Kek, Ma On Kong, Ho Pui and north of Ho Pui. Except Tai Kek which is less revitalized and actively resided, all other three are actively resided. This area is lightly urbanized with low rise village house. The sensitivity to change of this area is low.	Remain the same as the baseline
10.7.17	LCA6 (Industrial Landscape Character Area)	B11 & B12	This comprise collection of slummy-built temporary structure and open storage uses land, which are characterized with metallic hoarding and used for poultry, recycling, vehicle repairing etc. The sensitivity to change of this area is low.	Remain the same as the baseline
10.7.18	LCA7 (Nullah Landscape Character Area)	B13	This is the trained nullah next to Kam Ho Road. It is the primary tributary connecting and receiving outflow from the Ma On Kong Channel. The area is man-made and with poor and monotonous riverside vegetation. The sensitivity to change of this area is low.	Remain the same as the baseline

#### 10.7.19 Visual Character

The visual quality of the river valley of Ma On Kong Channel is semi-natural based on combination of rural landscape elements including agricultural land, village houses, woodland and pond and stream and industrial landscape elements including open storage and temporary structures. Interspersed landscape elements on general flat landform with minor undulation render numerous small enclosed views. No major vista and high quality open view identified.

#### 10.7.20 Visual Sensitive Receiver (VSR)

Within the ZVI, a number of key Visual Sensitive Receivers (VSRs) have been identified. These VSRs are mapped in Drawing V-001. They are listed, together with their sensitivity, in Table 10/5. Photo views illustrating the VSRs are illustrated in Drawing nos. PV-001 to 002 inclusive. For the ease of reference, each VSR is given an identity number, which is used in the text, tables and figures.

Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and  
Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

Table compares the baseline study and the current situation for KT13: (Visual Sensitive Receiver)

Section in EIA Report	Identify number – VSR	Photo No.	Baseline Study, Environmental Impact Assessment Final Report [382047/E/EIA/Issue 9]	Current Situation
<b>Industrial VSRs</b>				
10.7.21	I1	C1	Open storage near junction between Kam Ho Road and Village access The VSRs is workers of the open storage. The number of individual is very few and their sensitivity to visual impacts is low.	Remain the same as the baseline
10.7.22	I2	C2	Plant Nursery at the east of Ma On Kong Channel The VSRs is workers of the plant nursery. The number of individual is very few and their sensitivity to visual impacts is low.	Remain the same as the baseline
10.7.23	I3	C3	Plant Nursery at the west of Ma On Kong Channel The VSRs is workers of the plant nursery. The number of individual is very few and their sensitivity to visual impacts is low.	Remain the same as the baseline
10.7.24	I4	C4	Temporary Structure for poultry east to Ho Pui The VSRs is workers of the temporary structure. The number of individual is very few and their sensitivity to visual impacts is low.	Remain the same as the baseline
10.7.25	I5	C5	Open Storage at the end of village access road The VSRs is workers of the open storage. The number of individual is very few and their sensitivity to visual impacts is low.	Remain the same as the baseline
10.7.26	I6	C6	Temporary Structure for poultry and Open Storage at upstream of Ma On Kong Channel The VSRs is workers of the temporary structure and open storage. The number of individual is very few and their sensitivity to visual impacts is low.	Remain the same as the baseline

Open Space / Sitting – Out Area VSRs				
10.7.27	O1	C7	Users of Sitting-out Area at Ma On Kong The VSRs is future users of the re-provided sitting-out area during operation phase. The number of individual is few and their sensitivity to visual impacts is medium.	Remain the same as the baseline
Residential VSRs				
10.7.28	R1	C8	Tai Kek The VSRs is residents of the village. The number of individual is very few and their sensitivity to visual impacts in high.	Remain the same as the baseline
10.7.29	R2	C9	North of Ma On Kong The VSRs is residents of the village. The number of individual is very few and their sensitivity to visual impacts is high.	Remain the same as the baseline
10.7.30	R3	C10	Ma On Kong The VSRs is residents of the village. The number of individual is very few and their sensitivity to visual impacts is high.	Remain the same as the baseline
10.7.31	R4	C11	North of Ho Pui The VSRs is residents of the village. The number of individual is few and their sensitivity to visual impacts is high.	Remain the same as the baseline

Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

Transport-related VSRs				
10.7.32	T1	C12	<p>Motorists and Pedestrians along village access road (lower section)</p> <p>The VSRs is the road users of the road section. The number of individual is few and their sensitivity to visual impacts is low.</p>	Remain the same as the baseline
10.7.33	T2	C13	<p>Motorists and Pedestrians along village access road (high section)</p> <p>The VSRs is the road users of the road section. The number of individual is very few and their sensitivity to visual impacts is low.</p>	Remain the same as the baseline
10.7.34	T3	C14	<p>Motorists, Pedestrians and Tourists along access road toward Ho Pui Reservoir</p> <p>The VSRs is the road users of the road section, part of which are tourist to Ho Pui Reservoir. The number of individual is very few and their sensitivity to change is low.</p>	Remain the same as the baseline

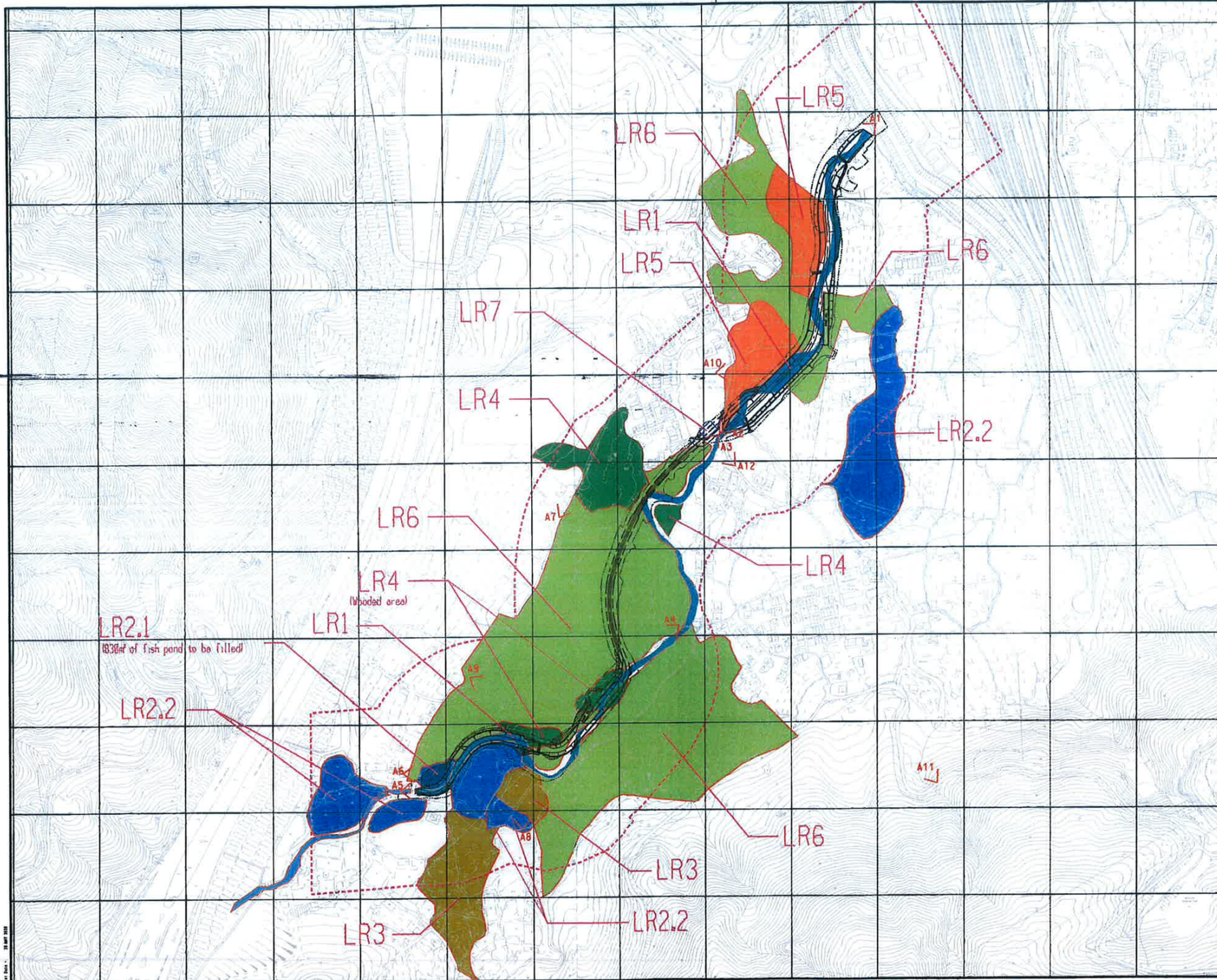
# Physical, Human and Cultural Landscape Resources Photo record

6 April 2009









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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
2. GRID LINES ARE HONG KONG METRIC GRID 1980.
3. TYPE 2 RAILING WITH DEBRIS TRAP BAR AND GENERAL WEIR FILL SHALL BE PROVIDED AT BOTH SIDES OF THE CHANNEL BARS.

LEGEND:

- SITE BOUNDARY
- - - - STUDY BOUNDARY
- == PROPOSED CHANNEL
- T T PROPOSED SLOPE
- LR1 - RIVER / STREAM
- LR2 - FISH POND
- LR3 - MARSH
- LR4 - WOODLAND/WOODED AREA
- LR5 - ORCHARD/HORTICULTURAL TREES
- LR6 - LOW-LYING GRASSLAND/FALLOW LAND
- LR7 - SITTING-OUT AREA
- △ PHOTO TAKING POINT WITH PHOTO NO.

Revision	Date	Description		Initial	
		Designed	Checked	Drawn	Checked
Initial	BW	JT	SC	JT	
Date	08/05	08/05	08/05	08/05	08/05

Approved:

Contract no. CE 67/98

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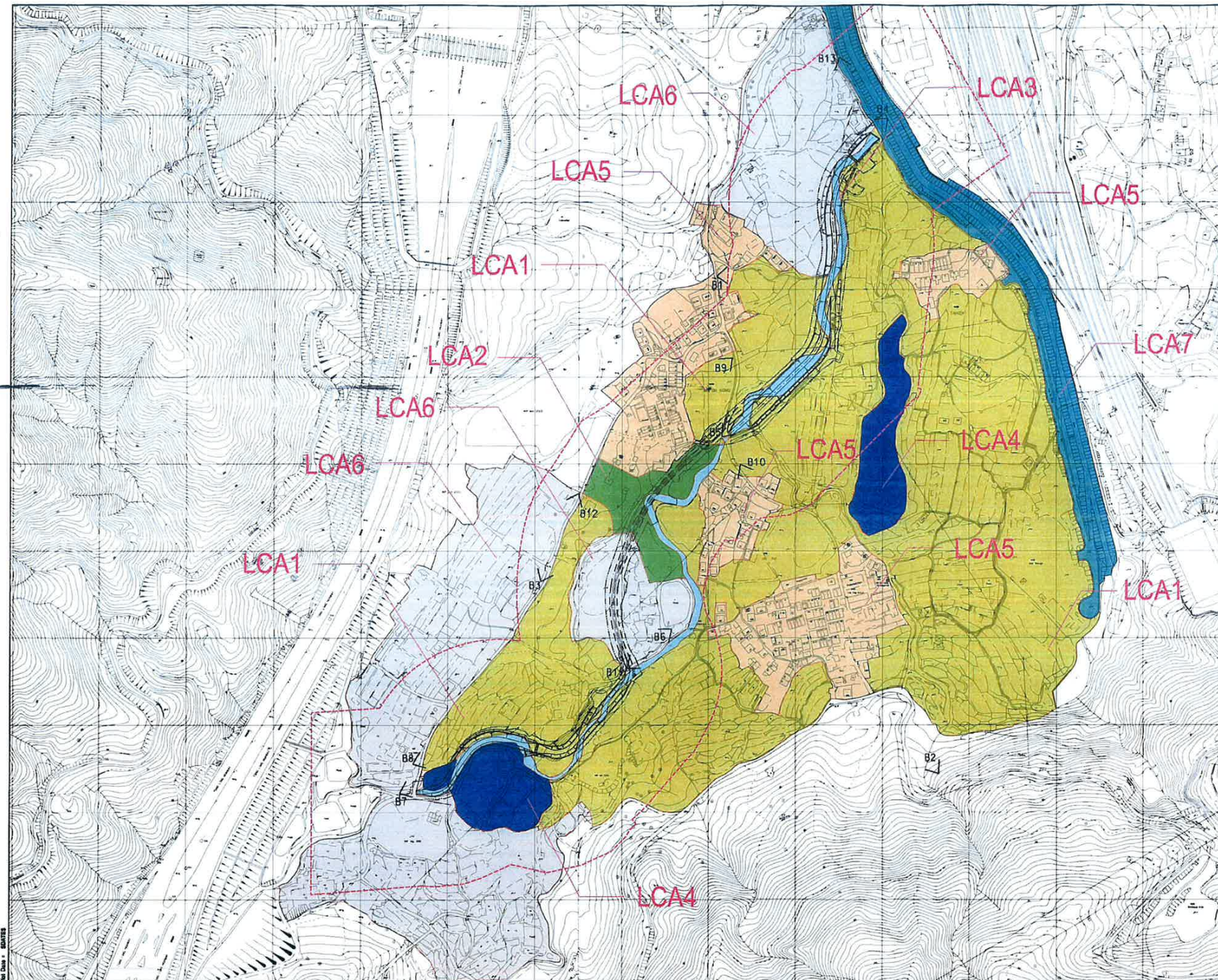
Drawing title  
MA ON KONG CHANNEL K113 LANDSCAPE RESOURCE BASELINE

Drawing no.	Scale
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香港特別行政區政府渠務署  
THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION  
DRAINAGE SERVICES DEPARTMENT

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  2. GRID LINES ARE HONG KONG METRIC GRID 1980.
  3. TYPE 2 RAILING WITH DEBRIS TRAP BAR AND GENERAL MESH FILL SHALL BE PROVIDED AT BOTH SIDES OF THE CHANNEL BANKS.

- LEGEND:
- SITE BOUNDARY
  - - - STUDY BOUNDARY
  - PROPOSED CHANNEL
  - PROPOSED SLOPE
  - LCA1 - AGRICULTURAL LANDSCAPE CHARACTER AREA
  - LCA2 - WOODLAND LANDSCAPE CHARACTER AREA
  - LCA3 - RIVER / STREAM LANDSCAPE CHARACTER AREA
  - LCA4 - FISH POND LANDSCAPE CHARACTER AREA
  - LCA5 - VILLAGE LANDSCAPE CHARACTER AREA
  - LCA6 - INDUSTRIAL LANDSCAPE CHARACTER AREA
  - LCA7 - MOUNTAIN LANDSCAPE CHARACTER AREA
  - BT PHOTO TAKING POINT WITH PHOTO NO.

NO.	DATE	DESCRIPTION	BY	CHECKED
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3	11/10/08	REVISED	YH	YH
4	11/10/08	REVISED	YH	YH
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42	11/10/08	REVISED	YH	YH
43	11/10/08	REVISED	YH	YH
44	11/10/08	REVISED	YH	YH
45	11/10/08	REVISED	YH	YH
46	11/10/08	REVISED	YH	YH
47	11/10/08	REVISED	YH	YH
48	11/10/08	REVISED	YH	YH
49	11/10/08	REVISED	YH	YH
50	11/10/08	REVISED	YH	YH

Approved:

CE 67/98

YUEN LONG, KAM TIN, NGAU TAM MEI & TIN SHUI WAI DRAINAGE IMPROVEMENT, STAGE 1 PHASE 2B - KAM TIN

MA ON KONG CHANNEL KT13 LANDSCAPE CHARACTER BASELINE

Drawing No.	Scale
LC-001	1:2000 A1 1:4000 A3

香港特別行政區政府渠務署  
THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION  
DRAINAGE SERVICES DEPARTMENT

BLACK & VEATCH HONG KONG LIMITED  
博城工程顧問有限公司





Photo No. A1 – LR1

River/Stream



Photo No. A2 – LR1

River/Stream



Photo No. A3 – LR1

River/Stream



Photo No. A4 – LR1

River/Stream



Photo No. A5 – LR1

River/Stream



Photo No. A6 – LR2.1

Fish Pond within site boundary

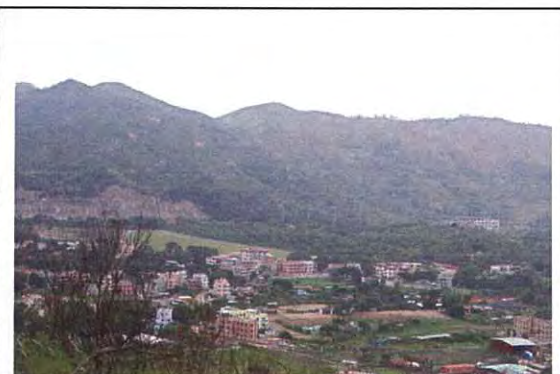


Photo No. A7 – LR2.2

River/Stream



Photo No. A8 – LR3

River/Stream



Photo No. A9 – LR4

Woodland/Wooded Area





Photo No. A10 – LR4

Woodland



Photo No. A11 – LR5

Orchard/ Horticultural Trees



Photo No. A12 – LR6

Low-Lying Agricultural Land/ Fallowed Land



Photo No. A13 –LR7

Sitting-Out Area at Ma On Kong





Photo No. B1 – LCA1 Agricultural Landscape Character Area

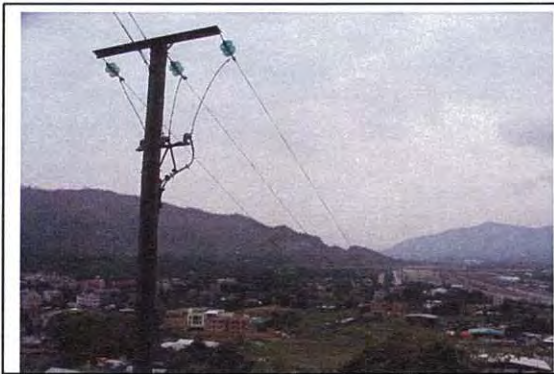


Photo No. B2 – LCA1 Agricultural Landscape Character Area



Photo No. B3– LCA2 Woodland Landscape Character Area



Photo No. B4 – LCA3 River/ Stream Landscape Character Area



Photo No. B5 – LCA3 River/ Stream Landscape Character Area



Photo No. B6 – LCA3.1 River/ Stream Landscape Character Area



Photo No. B7 – LCA3 River/ Stream Landscape Character Area



Photo No. B8 – LCA4 Fish Pond Landscape Area



Photo No. B9– LCA5 Village Landscape Character Area



Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and  
Sewerage at Tseng Tau Chung Tsuen, Tuen Mun  
Physical, Human and Cultural Landscape Resources Record



Photo No. B10—LCA 5 Village Landscape Character Area



Photo No. B11—LCA 6 Industrial Landscape Character Area



Photo No. B12—LCA 6 Industrial Landscape Character Area



Photo No. B13—LCA 7 Nullah Landscape Character Area





Photo No. C1—I1 Open storage near junction between Kam Ho Road and Village access road



Photo No. C2—I2 Plant Nursery at the east of Ma On Kong Channel



Photo No. C3—I3 Plant Nursery at the east of Ma On Kong Channel



Photo No. C4—I4 Temporary Structure for poultry east to Ho Pui



Photo No. C5—I5 Open Storage at the end of village access road



Photo No. C6—I6 Temporary Structure for poultry and Open Storage at upstream of Ma On Kong Channel



Photo No. C7—O1 Sitting-out Area at Ma On Kong



Photo No. C8—R1 Tei Kek



Photo No. C9—R2 North of Ma On Kong



Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun  
Physical, Human and Cultural Landscape Resources Record

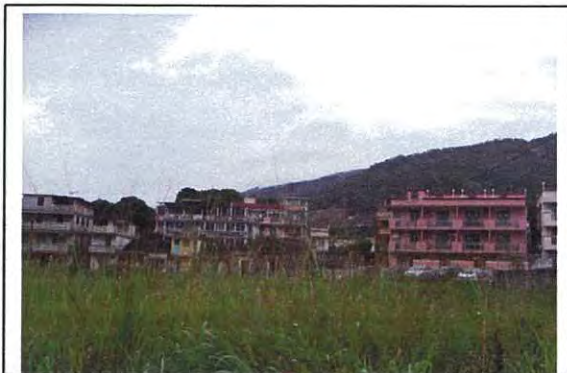


Photo No. C10—R3

Ma On Kong



Photo No. C11—R4

North of Ho Pui



Photo No. C12—T1 Motorists and Pedestrians along village access road  
(lower section)



Photo No. C13—T2

Motorists and Pedestrians along village access road (high section)

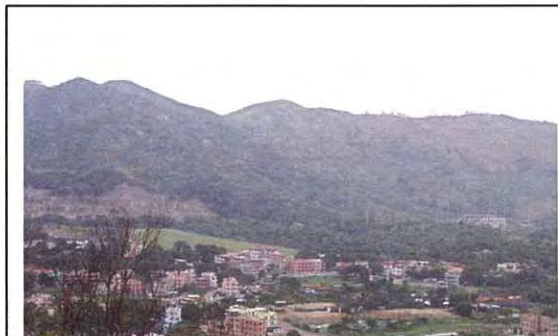


Photo No. C14—T3

Motorists, Pedestrians and Tourists along access road toward Ho Pui Reservoir

DC/2007/17

Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and  
Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

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## Physical, Human and Cultural Landscape Resources Photo record

20 April 2009





Photo No. A1 – LR1

River/Stream



Photo No. A2 – LR1

River/Stream



Photo No. A3 – LR1

River/Stream



Photo No. A4 – LR1

River/Stream



Photo No. A5 – LR1

River/Stream



Photo No. A6 – LR2.1

Fish Pond within site boundary

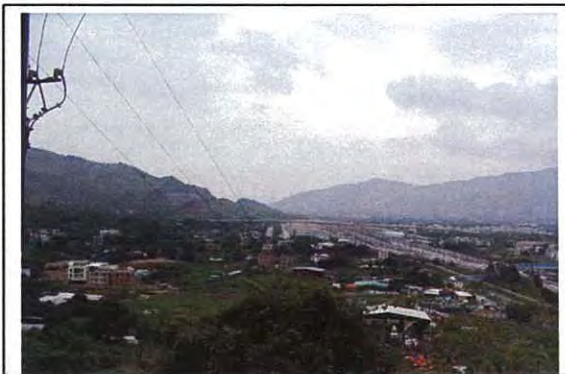


Photo No. A7 – LR2.2

River/Stream



Photo No. A8 – LR3

River/Stream



Photo No. A9 – LR4

Woodland/Wooded Area



Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and  
Sewerage at Tseng Tau Chung Tsuen, Tuen Mun  
Physical, Human and Cultural Landscape Resources Record



Photo No. A10 – LR4

Woodland



Photo No. A11 – LR5

Orchard/ Horticultural Trees

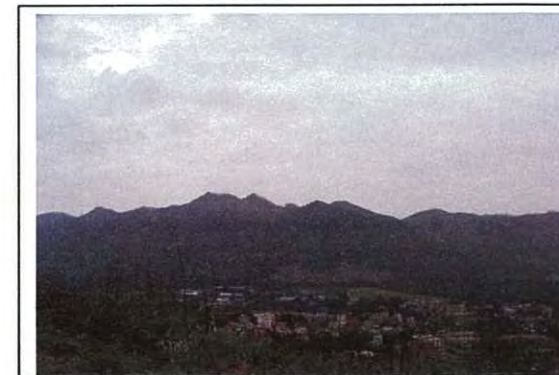


Photo No. A12 – LR6

Low-Lying Agricultural Land/ Fallowed Land



Photo No. A13 – LR7

Sitting-Out Area at Ma On Kong



Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun Physical, Human and Cultural Landscape Resources Record



Photo No. B1 – LCA1 Agricultural Landscape Character Area

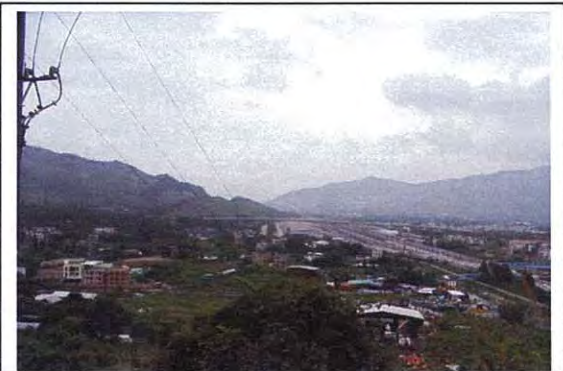


Photo No. B2 – LCA1 Agricultural Landscape Character Area



Photo No. B3– LCA2 Woodland Landscape Character Area



Photo No. B4 – LCA3 River/ Stream Landscape Character Area



Photo No. B5 – LCA3 River/ Stream Landscape Character Area



Photo No. B6 – LCA3.1 River/ Stream Landscape Character Area



Photo No. B7 – LCA3 River/ Stream Landscape Character Area



Photo No. B8 – LCA4 Fish Pond Landscape Area



Photo No. B9– LCA5 Village Landscape Character Area



Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen, Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun Physical, Human and Cultural Landscape Resources Record



Photo No. B10—LCA 5 Village Landscape Character Area



Photo No. B11—LCA 6 Industrial Landscape Character Area



Photo No. B12—LCA 6 Industrial Landscape Character Area



Photo No. B13—LCA 7 Nullah Landscape Character Area





Photo No. C1—11 Open storage near junction between Kam Ho Road and Village access road



Photo No. C2—12 Plant Nursery at the east of Ma On Kong Channel



Photo No. C3—13 Plant Nursery at the east of Ma On Kong Channel



Photo No. C4—14 Temporary Structure for poultry east to Ho Pui



Photo No. C5—15 Open Storage at the end of village access road



Photo No. C6—16 Temporary Structure for poultry and Open Storage at upstream of Ma On Kong Channel



Photo No. C7—01 Sitting-out Area at Ma On Kong



Photo No. C8—R1 Tei Kek



Photo No. C9—R2 North of Ma On Kong





Photo No. C10—R3

Ma On Kong



Photo No. C11—R4

North of Ho Pui



Photo No. C12—T1 Motorists and Pedestrians along village access road  
(lower section)



Photo No. C13—T2

Motorists and Pedestrians along village  
access road (high section)

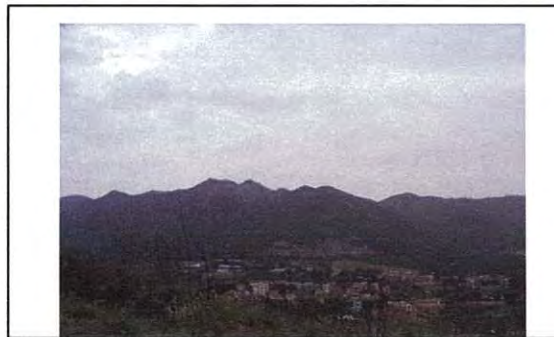


Photo No. C14—T3

Motorists, Pedestrians and Tourists along  
access road toward Ho Pui Reservoir

## **Appendix J**

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

**Monthly Summary Waste Flow Table**

Date: 30-Apr-09  
Year/Month: Apr-09

<b>Monthly Summary Waste Flow Table for <u>April 2009</u></b>										
Year	Actual Quantities of Inert C & D Materials Generated Monthly					Estimated Annual Quantities of C & D Wastes Generated Monthly				
	Total Quantity Generated	Broken Concrete (see note 4)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ Cardboard packaging	Plastics (see note 3)	Chemical Waste	Others, e.g. General refuse
	(in '000M <sup>3</sup> )	(in '000M <sup>3</sup> )	(in '000M <sup>3</sup> )	(in '000M <sup>3</sup> )	(in '000M <sup>3</sup> )	(in '000KG)	(in '000KG)	(in '000KG)	(in '000KG)	(in '000M <sup>3</sup> )
Jan	6.716	0.008	6.708	0	0	0	0	0	0	0
Feb	8.001	0.009	7.632	0.360	0	0	0	0	0	0
Mar	5.792	0.014	5.778	0	0	0	0	0	0	0
Apr	6.376	0.004	6.864	-0.492	0	0	0	0	0	0
May										
Jun										
Sub-Total	26.88	0.035	26.982	-0.132	0	0	0	0	0	0
Jul										
Aug										
Sep										
Oct										
Nov										
Dec										
Total	26.885	0.035	26.982	-0.132	0.000	0.000	0.000	0.000	0.000	0.000

- Notes:
- (1) The performance targets are given in PS Clause 28.10(14)
  - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (3) Plastics refer to plastic bottles/ containers, plastic sheets/ foam form packaging material
  - (4) Broken concrete for recycling into aggregates