

JOB NO.: TCS00371/07

VERSION NO.: 4

**DRAINAGE SERVICES DEPARTMENT
CONTRACT NO. DC/2006/02**



**YUEN LONG, KAM TIN, NGAU TAM MEI AND TIN SHUI
WAI DRAINAGE IMPROVEMENTS, STAGE 1, PHASE
2B – CHEUNG CHUN SAN TSUEN AND KAM TSIN WAI**

**KT15 Quarterly EM&A Summary Report –
26TH SEPTEMBER TO 31ST DECEMBER 2009**

PREPARED FOR

CHIT CHEUNG CONSTRUCTION COMPANY LIMITED

Quality Index

Date	Reference No.	Prepared By	Certified By
23 December 2010	TCS00371/07/600/R1606v4		
		Nicola Hon Environmental Consultant	T.W. Tam Environmental Team Leader

Version No.	Date	Remarks
1	17 December 2010	First Submission
2	21 December 2010	Amended against IEC's comments on 17 December 2010
3	22 December 2010	Amended against IEC's comments on 21 December 2010
4	23 December 2010	Amended against IEC's comments on 23 December 2010

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Black & Veatch Hong Kong Limited
Engineer's Representative Office
Ma Fung Ling Road,
Yuen Long,
New Territories

Attn: Ms. Jenny S Y Lui

24 December 2010

Dear Madam,

Contract No. DC/2006/02

**Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1,
Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai**

KT15 - Quarterly EM&A Summary Report for October to December 2009 (Version 4)

We refer to the captioned report (Reference No. TCS00371/07/600/R1606v4) submitted by the Environmental Team Leader (ETL) via email on 24 December 2010. We have no further comment and hereby verify the captioned report.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr. Y.W. Fung at 3105 8544.

Yours faithfully,



Y T Tang
Independent Environmental Checker

cc Chit Cheung
AUES

Mr. K.W. Hoi
Mr. T.W. Tam

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EXECUTIVE SUMMARY

- ES01. Chit Cheung Construction Company Limited (CCC) has been awarded the Drainage Services Department (DSD) Contract No. DC/2006/02 *Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai* (hereinafter “the Project”) on 3 April 2007. According to the contract specification requirements, an Environmental Monitoring & Audit (EM&A) program is to be implemented by an Independent Environmental Team (ET) throughout the major construction period.
- ES02. Under the Project Profile for *Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai, Drainage Improvement Stage 1 Phase 2B – Kam Tin Secondary Drainage Channels KT14 & KT15* (Ref.: 382047/E/PP/Issue 5), KT14 & KT15 were defined as Designated Projects and governed by the *Environmental Permit (EP-231/2005/A)*.
- ES03. Action-United Environmental Services and Consulting (AUES) has been commissioned by CCC as an Independent Environmental Team (ET) to implement the EM&A program in compliance with the requirements as stated in the Environmental Permit and the *Environmental Monitoring & Audit Manual (EM&A Manual) for Secondary Channels KT14 & KT15 (August 2005)*. This contract (DC/2006/02) only covers KT15; and KT14 will be carried out under another contract.
- ES04. Upon notification of completion by the Contractor, last site audit was conducted on 16 December 2009 which confirmed no works of environmental significance remain was observed. The impact monitoring carried out by ET was ceased on 19 December 2009, except for ecological monitoring which was last carried out on 21 December 2009 during the Reporting Period. Due to the termination of impact monitoring and EM&A Programme of construction phase, this is the last (10th) Quarterly Environmental Monitoring & Audit (EM&A) Summary Report for **October to December 2009** containing the monitoring results and audit findings for the period from **26 September 2009 to 31 December 2009** (this quarter).

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES05. Monitored data exceedances in this quarter are summarised in following table.

Monitoring	Parameters	Action Level	Limit Level
Air Quality	1-hour TSP	-	-
	24-hour TSP	-	-
Noise	Leq (30min) Daytime	-	-
Stream Water	Dissolve Oxygen (DO)	-	-
	Turbidity (NTU)	-	-
	pH	-	-
	Suspended Solids (SS)	-	-
	Ammonia Nitrogen	-	-
	Zinc	-	-
Ecology	Number of species of wetland birds	-	20 October 2009
			25 November 2009 21 December 2009
	Total number of wetland birds	-	

Note: According to the EM&A Manual S7.5.1(b), fauna monitoring was only undertaken during wet season (April to July)

COMPLAINTS LOG

ES06. No environmental complaint was received in this quarter.

NOTIFICATIONS OF ANY SUMMONS AND SUCCESSFUL PROSECUTIONS

ES07. There was no environmental summons or successful prosecution was recorded in this quarter.

REPORTING CHANGES

ES08. There are no changes in reporting made in this quarter.

CONSTRUCTION ACTIVITIES IN THE REPORTING QUARTER

ES09. Construction activities in the quarter are listed in the following table:

Reporting Period	Construction Activities
26 September 2009 – 25 October 2009	<ul style="list-style-type: none"> • Backfilling behind completed structure; • Road construction; • Carrying out joined survey; • Tree protection and tree transplanting works; • Utilities companies liaison; • Gabion installation; • Hydroseeding; • Planting tree
26 October 2009 – 25 November 2009	<ul style="list-style-type: none"> • Planting tree; • Hydroseeding; • Carrying out joined survey; • Tree protection and tree transplanting works; • Utilities companies liaison; • Backfilling behind completed structure
26 November 2009– 31 December 2009	<ul style="list-style-type: none"> • Planting Tree; • Hydroseeding; • Carrying out joined survey; • Tree protection and tree transplanting works; • Utilities companies liaison;

ES10. The construction works for Channel KT15 was substantially completed on 10 November 2009. CCC should still keep in mind for the 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 for the maintenance period of construction.

EM&A ACTIVITIES IN THE REPORTING QUARTER

ES11. A summary of the monitoring activities in this quarter is listed below:

- 1-hour TSP Monitoring **42** Events
- 24-hour TSP Monitoring **14** Events
- Noise Monitoring **14** Events
- Stream Water Quality **48** Events
- Ecology **3** Events
- Site Inspection Audit **12** Times

AIR QUALITY

ES12. No Action or Limit Level exceedance of 1-hour or 24-hour TSP was recorded in this

quarter.

CONSTRUCTION NOISE

ES13. No exceedance in construction noise measurements was recorded and no construction noise complaint was received in this quarter.

STREAM WATER QUALITY

ES14. No stream water quality monitoring result that triggered the Action or Limit Level was recorded in this reporting period.

ECOLOGY

ES15. Three wetland bird monitoring sessions were conducted during the reporting quarter. Non-compliances with the ecological criteria were found during the quarter (20 October, 25 November and 21 December 2009). No intrusions of construction activities, discharge to the wetland areas or adverse impact to the adjacent wetland were observed on 20 October, 25 November and 21 December 2009. Investigation reports revealed that major construction works carried out during the exceedance days were only erection of formwork, steel fixing, tree planting, concreting and installing of fencing. Those activities would not cause excessive disturbance to the adjacent wetlands. Therefore, the non-compliances in number of species of wetland dependent birds were not due to the Project.

SUMMARY OF MONITORING EXCEEDANCES

ES16. A summary of monitoring exceedances in this quarter for air quality, noise, stream water quality and ecology monitoring are presented below:

Env. Quality	Parameters	Work-Related Exceedance %	Investigation & Corrective Actions
Air Quality	1-hour TSP	0	Not Required for 0% Exceedance
	24-hour TSP	0	Not Required for 0% Exceedance
Noise	Leq (30min) Daytime	0	Not Required for 0% Exceedance
Stream Water	Dissolve Oxygen (DO)	0	Not Required for 0% Exceedance
	Suspended Solids (SS)	0	Not Required for 0% Exceedance
	Turbidity (NTU)	0	Not Required for 0% Exceedance
	pH	0	Not Required for 0% Exceedance
	Ammonia Nitrogen	0	Not Required for 0% Exceedance
	Zinc	0	Not Required for 0% Exceedance
Ecology	Decrease in the total number of species or individuals of wetland dependent bird from baseline	0	Not Required for 0% Exceedance

SITE INSPECTION BY EXTERNAL PARTIES

ES17. No site visit or inspection was carried out by the Environmental Protection Department in this Reporting Period.

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1.0 INTRODUCTION

- 1.01 Chit Cheung Construction Company Limited (CCC) has been awarded the Drainage Services Department Contract No. DC/2006/02 *Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai* (hereinafter “the Project”) on 3 April 2007. According to the contract specification requirements the Project should implement an Environmental Monitoring & Audit (EM&A) program by an Independent Environmental Team (ET) throughout the construction period in accordance with the requirements as stated in the Project particular specification, Environmental Permit (EP-231/2005/A) and EM&A Manual for Channel KT15. The location of the Project Site is presented in [Appendix A](#) and the construction program is presented in the pervious monthly EM&A reports.
- 1.02 The works to be executed at the proposed Channel KT15 mainly comprise the following:
- Construction of about 0.8 km secondary drainage channels;
 - Construction of DSD maintenances access;
 - Provisioning and re-provisioning of pedestrian crossings;
 - Associated ancillary works; and
 - Construction of temporary vehicular access in Portion 5A1 of the site for vehicular access from Kam Sheung Road to Lot Nos. 398RP, 395 in DD106 which are adjacent to the site.
- 1.03 Action-United Environmental Services and Consulting (AUES) has been commissioned by CCC as an Independent Environmental Team (ET) for implementation of the EM&A program in accordance with the requirements as set out in the contract particular specification, Environmental Permit (EP-231/2005/A), EM&A Manual for Channel KT15 and the Environment Impact Assessment Ordinance (EIAO).
- 1.04 Upon notification of completion by the Contractor, last site audit was conducted on 16 December 2009 which confirmed no works of environmental significance remain was observed. The impact monitoring carried out by ET was ceased on 19 December 2009, except for ecological monitoring which was last carried out on 21 December 2009 during the Reporting Period. Due to the termination of impact monitoring and EM&A Programme of construction phase, this is the last (10th) Quarterly EM&A Summary report summaries the monitoring results and inspection findings for the quarter **October to December 2009** during the period from **26 September 2009 to 31 December 2009** under the EM&A program.

REPORT STRUCTURE

- 1.05 This Quarterly EM&A Summary Report is structured into the following sections:

SECTION 1	INTRODUCTION
SECTION 2	PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS
SECTION 3	SUMMARY OF MONITORING REQUIREMENTS
SECTION 4	IMPACT MONITORING METHODOLOGY
SECTION 5	IMPACT MONITORING RESULTS
SECTION 6	WASTE MANAGEMENT

SECTION 7	SITE INSPECTION
SECTION 8	ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE
SECTION 9	IMPLEMENTATION STATUS OF MITIGATION MEASURES
SECTION 10	CONCLUSIONS

2.0 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

2.01 The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in [Appendix B](#).

CONSTRUCTION PROGRESS

2.02 The major construction activities undertaken in this quarter were summaries in [Table 2-1](#).

Table 2-1 Major Construction Activities

Reporting Period	Construction Activities
26 September 2009 – 25 October 2009	<ul style="list-style-type: none"> • Backfilling behind completed structure; • Road construction; • Carrying out joined survey; • Tree protection and tree transplanting works; • Utilities companies liaison; • Gabion installation • Hydroseeding • Planting tree
26 October 2009 – 25 November 2009	<ul style="list-style-type: none"> • Planting tree; • Hydroseeding; • Carrying out joined survey; • Tree protection and tree transplanting works • Utilities companies liaison; • Backfilling behind completed structure
26 November 2009– 31 December 2009	<ul style="list-style-type: none"> • Planting Tree; • Hydroseeding; • Carrying out joined survey; • Tree protection and tree transplanting works; • Utilities companies liaison;

SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.03 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this quarter are presented in [Table 2-2](#).

Table 2-2 Status of Environmental Licenses and Permits

Items	Item Description	License/Permits Status
1	Environmental Permit (EP-231/2005/A)	-
2	Air Pollution Control (Construction Dust)	Notified EPD on 9 July 2007
3	Chemical Waste Producer Registration WPN:5296-519-C3430-01 (Portion 8, Ma Fung Ling Road, Tong Yan San Tsuen, Yuen Long)	Registration on 20 April 2007
4	Chemical Waste Producer Registration WPN:5113-533-C3434-09 (Kam Tsin Wai, Kam Tin, Yuen Long)	Registration on 20 April 2007
5	Chemical Waste Producer Registration WPN:5213-424-C3431-01 (Portion 7, Birthing Area, Hoi Wan Road, Tuen Mun)	Registration on 20 April 2007
6	Water Pollution Control Ordinance (Discharge License) License No.: 1U450/1	Updated on 20 June 2009
7	Billing Account for Disposal of Construction Waste (Account Number : 7005311)	Valid on 7 May 2007

3.0 SUMMARY OF IMPACT MONITORING REQUIREMENTS

- 3.01 Environmental monitoring and audit requirements are set out in the EM&A Manual. Air quality, construction noise, stream water quality and ecology have been identified to be the key environmental issues during the construction phase of the Project.
- 3.02 A summary of the EM&A requirements for air quality, construction noise, stream water quality and ecology monitoring are shown in **Table 3-1**. The designated station of the air quality, construction noise, stream water quality locations and ecology monitoring area are shown in **Appendix C**.

Table 3-1 Summary of EM&A Requirements

Environmental Aspect	Monitoring Parameters		Monitoring Stations
Air Quality	1-hour and 24-hour TSP		A10
Construction Noise	Leq _(30min) during normal working hours		N10a*
	Supplementary data of L ₁₀ and L ₉₀ for reference.		
Stream Water Quality	In Situ Measurement	• Dissolved Oxygen Concentration (mg/L);	W9A & W9B
		• Dissolved Oxygen Saturation (% Sat);	
		• Turbidity (NTU);	
		• pH;	
		• Salinity (%); Water Depth (m) and	
		• Temperature (°C).	
	Laboratory Analysis	• Suspended Solids (mg/L);	
		• Ammonia Nitrogen (mg/L); and	
		• Zinc (µg/L).	
Ecology	<ul style="list-style-type: none"> • Monthly monitoring of construction activities adjacent to the wetland areas to identify any intrusions of construction activities into the wetland areas; • Monthly monitoring of wetland areas themselves to check that there is no adverse impact on the wetlands as a consequence of changes to the water table that are attributable to the project, if any; • Photographic records at six-month intervals; and • Monthly surveys of fauna in the wetland areas during the wet season (April to July inclusive) for reptiles, amphibians, dragonflies, and butterflies, and throughout the year for birds. 		

Note: * The noise ambient condition within the victim area without significant change. Due to the accessibility, noise monitoring will undertake at N10a. Once the access is available, the impact noise monitoring will undertake at N10.

- 3.03 Air monitoring is carried out once every six days for 24-hour TSP and 3 times every six days for 1-hour TSP at one designated monitoring station A10.
- 3.04 Noise monitoring is conducted once per week at one designated monitoring location (N10a). Measurements of Leq_(30min) shall be taken between 0700 and 1900 hours with supplementary L₁₀ and L₉₀ data collected for reference.
- 3.05 Stream water quality monitoring is conducted were undertaken at two location W9A & W9B twice per week. Dissolved Oxygen (DO), pH, Turbidity (NTU) was measured in-situ; water depth, temperature and salinity were collected for relevant data. Suspended solids (SS), ammonia nitrogen and zinc were determined in a HOKLAS accredited laboratory.
- 3.06 Ecological monitoring is conducted in the seasonal wetland area as shown in the Project Profile of KT15 (Figure ATT 4-7.2). Monthly monitoring was conducted by means of walk through survey, along the boundary and within the wetland areas in KT15. Any adverse impacts to the habitat, intrusions of construction activities into

the wetland areas, and adverse changes in the wetlands were checked and reported if any. Photographic records of vegetation within the monitoring area on the fixed photo record points selected during the baseline survey are made every six months. The photos from the construction phase ecological monitoring will be compared with those taken during the baseline which is used as the baseline conditions. Bird survey should be conducted monthly throughout the year and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are conducted monthly in wet season (April to July inclusive) only.

- 3.07 A summary of the Action/Limit (A/L) Levels for air quality, construction noise, stream water quality and ecology are shown in **Tables 3-2, 3-3, 3-4** and **3-5**.

Table 3-2 Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
A10	> 307	> 165	> 500	> 260

Table 3-3 Action and Limit Levels for Construction Noise Monitoring

Time Period	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hrs on normal weekdays	When one or more documented complaints are received	> 75* dB(A)

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

Table 3-4 Action and Limit Levels for Stream Water Quality Monitoring

Dissolved Oxygen (mg/l)	W9A (Upstream) [#]	W9B (Downstream)
Action Level	NA	< 0.3
Limit Level	NA	< 0.2
Turbidity (NTU)	W9A (Upstream) [#]	W9B (Downstream)
Action Level	NA	> 73.5*
Limit Level	NA	> 78.2**
pH	W9A (Upstream) [#]	W9B (Downstream)
Action Level	NA	> 7.0*
Limit Level	NA	> 7.1**
Suspended Solids (mg/L)	W9A (Upstream) [#]	W9B (Downstream)
Action Level	NA	> 148*
Limit Level	NA	> 159**
Ammonia Nitrogen (mg/L)	W9A (Upstream) [#]	W9B (Downstream)
Action Level	NA	> 30.91*
Limit Level	NA	> 32.20**
Zinc ($\mu\text{g}/\text{L}$)	W9A (Upstream) [#]	W9B (Downstream)
Action Level	NA	> 242*
Limit Level	NA	> 252**

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

Table 3-5 Action and Limit Levels for Ecology Monitoring

Parameters	Action Level	Limit Level
Decrease in number of species of wetland birds of conservation importance from baseline.	20 – 40% of 2 species	> 40% of 2 species
Decrease in the total number of wetland birds of conservation importance from baseline.	20 – 40% of 1.2 individuals	> 40% of 1.2 individuals

4.0 IMPACT MONITORING METHDOLOGY

MONITORING LOCATIONS

- 4.01 The 1-hour and 24-hour TSP monitoring was carried out at one designated station A10. Impact construction noise monitoring was undertaken at the designated location N10a. Stream water quality monitoring was undertaken at two designated locations (W9A & W9B). The ecology monitoring was conducted within the wetland area in according to the EM&A Manual of KT15. The descriptions of monitoring stations are presented in **Tables 4-1** and **Appendix C**.

Table 4-1 Location of Air Quality, Noise & Stream Water Quality Monitoring Station/Locations

Air Quality Station	
A10	Village House in Tin Sam San Tsuen
Construction Noise Location	
N10*	Village House in Tin Sam San Tsuen
N10a	Village House in Tin Sam San Tsuen
Water Quality Locations	
W9A [#]	Tin Sam San Tsuen
W9B	Tin Sam San Tsuen

Note: * The noise ambient condition within the victim area without significant change. Due to the accessibility, noise monitoring will undertake at N10a. Once the access is available, the impact noise monitoring will undertake at N10

Act as control station in impact monitoring

- 4.02 The meteorological data during the quarter were obtained from the Lau Fau Shan Station of the Hong Kong Observatory (HKO).

MONITORING FREQUENCY AND PERIOD

1-HOUR TSP MONITORING

- 4.03 The 1-hour TSP monitoring was conducted in designated station A10 in according to the EM&A Manual three times every 6 days. A total of **42** monitoring events were carried out in this quarter.

24-HOUR TSP MONITORING

- 4.04 The 24-hour TSP monitoring was conducted at station A10 once every six days. A total of **14** monitoring events were carried out in this quarter.

NOISE MONITORING

- 4.05 Impact noise monitoring was undertaken at one location N10a once per week. A total of **14** monitoring events were carried out in this quarter.

STREAM WATER QUALITY MONITORING

- 4.06 The stream water quality monitoring was undertaken at two locations W9A & W9B two times per week and a total of **48** monitoring events were carried out.

ECOLOGY MONITORING

- 4.07 Bird survey should be conducted in monthly basis throughout the year and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are conducted monthly in wet season (April to July inclusive) in the seasonal wetland area. Based on the EM&A Manual requirements, three monitoring and checking of construction activities adjacent to the wetland areas was undertaken on **20 October 2009, 25 November 2009 and 21 December 2009**.
- 4.08 Photographic records of vegetation within the monitoring area should be made at six monthly intervals and presented in recent month (December 2009).

5.0 IMPACT MONITORING RESULTS

5.01 The impact EM&A program was carried out by the ET in accordance with the EM&A Manual in this quarter. Upon notification of completion by the Contractor, the last site audit was conducted on 16 December 2009 which confirmed no works of environmental significance remained. The impact monitoring carried out by ET had ceased since 19 December 2009, except for ecological monitoring which was last carried out on 21 December 2009. As agreed by the IEC and RE, the EM&A Programme for construction phase was ceased on 31 December 2009. The impact monitoring schedules were presented in previous Monthly EM&A Reports (**October 2009, November 2009 and December 2009**). All the impact monitoring measures were undertaken according to the monitoring schedule. Detailed monitoring results were presented in the three previous Monthly EM&A Reports.

AIR QUALITY

5.02 No 1-hour/24-hour TSP Action or Limit Level exceedance was recorded in this quarter. Details of the impact air quality monitoring data were present in the previous Monthly EM&A Reports (**October 2009, November 2009 and December 2009**). Graphical plots of the 1-hour and 24-hour TSP monitoring results are shown in **Appendix D**.

5.03 The meteorological data of this quarter are summarized in **Appendix E**.

CONSTRUCTION NOISE

5.04 No construction noise exceedance (Action/Limit Level) was recorded in this quarter. Details of the impact noise monitoring data were present in the previous Monthly EM&A Reports (**October 2009, November 2009 and December 2009**). Graphical plots of the monitoring data are presented in **Appendix D**.

STREAM WATER QUALITY

5.05 No stream water quality monitoring result that triggered the Action or Limit Level was recorded in this reporting period. Details of the monitoring results were present in the previous Monthly EM&A Reports (**October 2009, November 2009 and December 2009**) and graphical plots for each parameter are presented in Appendix D.

ECOLOGY

5.06 Exceedances in ecology were recorded in this quarter. Details of the monitoring results were presented in the previous Monthly EM&A Reports (**October 2009, November 2009 and December 2009**) and a summary of the exceedance is presented in **Table 5-1**. From Section 7.5.1(b) of the EM&A Manual, fauna survey is required during wet season (i.e. April to July) and thus fauna monitoring was undertaken in this period.

5.07 Three wetland bird monitoring sessions were conducted during the reporting quarter. Non-compliances with the ecological criteria were found during the quarter (20 October, 25 November and 21 December 2009). No intrusions of construction activities, discharge to the wetland areas or adverse impact to the adjacent wetland were observed on 20 October, 25 November and 21 December 2009. Investigation reports revealed that major construction works carried out during the exceedance days were only erection of formwork, steel fixing, tree planting, concreting and installing

of fencing. Those activities would not cause excessive disturbance to the adjacent wetlands. Therefore, the non-compliances in number of species of wetland dependent birds were not due to the Project.

Table 5-1 Summary of Exceedances in Ecology Impact Monitoring

Month	Taxa	Parameters	Action Level	Limit Level
October 2009	Bird	Species no.	-	Breach
		Individual no.	-	-
November 2009	Bird	Species no.	-	Breach
		Individual no.	-	-
September 2009	Bird	Species no.	-	Breach
		Individual no.	-	-

5.08 Photographic records of vegetation within the monitoring area are scheduled in six-month intervals, and thus shown in the recent monthly report (Dec 10). One of the trees recorded during the baseline photographic records and within the Project boundary (i.e. Tree A) was removed due to the needs of the construction works. Other recorded trees are still intact. Fauna monitoring are scheduled in wet season between April and July, and thus are not required in the reporting quarter.

6.0 WASTE MANAGEMENT

6.01 The waste management was implemented by an Environmental Officer or Environmental Supervisor employed by the Contractor.

RECORDS OF WASTE QUANTITIES

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

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

6.03 Total quantities of waste for disposal in this quarter were summarized in **Tables 6-1 and 6-2**. Whenever possible, materials were reused on-site as far as practicable. The quantities of excavation soil for marine disposal in this quarter are summarized in **Table 6-3**.

Table 6-1 Summary of Quantities of Inert C&D Materials

Type of Waste	October 2009	November 2009	December 2009
Broken Concrete (Inert) (m ³)	0	0	0
Reused in this Contract (Inert) (m ³)	0	0	0
Reused in other Projects (Inert) (m ³)	0	0	0
Disposal as Public Fill (Inert) (m ³)	0	0	0

Table 6-2 Summary of Quantities of C&D Wastes

Type of Waste	October 2009	November 2009	December 2009
Recycled Metal (kg)	0	0	0
Recycled Paper / Cardboard Packing (kg)	0	0	0
Recycled Plastic (kg)	0	0	0
Chemical Wastes (L)	0	0	0
General Refuses (m ³)	49	56	56

Table 6-3 Summary of Excavated Soil for Marine Disposal

Type of Waste	October 2009	November 2009	December 2009
Type 1 Materials (m ³)	0	0	0
Type 2 Materials (m ³)	0	0	0

7.0 SITE INSPECTION

7.01 According to the Section 9.1.2 of the EM&A Manual, the environmental site inspection should be formulated by the Environmental Team Leader. The inspection dates of ET's weekly environmental site inspection and IEC monthly site audit were summarized in **Table 7-1**. Upon notification of completion by the Contractor, the last site audit was conducted on 16 December 2009 which confirmed no works of environmental significance remain was observed.

Table 7-1 Date of Environmental Weekly Site Inspection and Monthly Audit

Date of Inspection/Audit	Involved Parties
28 Sept 2009	ER, CCC and ET
7 Oct 2009	ER, CCC and ET
14 Oct 2009	ER, CCC and ET
*23 Oct 2009	ER, IEC, CCC and ET
29 Oct 2009	ER, CCC and ET
4 Nov 2009	ER, CCC and ET
11 Nov 2009	ER, CCC and ET
*17 Nov 2009	ER, IEC, CCC and ET
27 November 2009	ER, CCC and ET
2 December 2009	ER, CCC and ET
9 December 2009	ER, CCC and ET
16 December 2009	ER, IEC, CCC and ET

Note: *Monthly IEC site audit.

7.02 During the weekly site inspection or monthly auditing, there have no non-compliance but **3** observations were recorded in this quarter. The weekly ET site inspection and monthly IEC site audit checklists were presented in the pervious Monthly EM&A Reports (**October 2009, November 2009 and December 2009**).

7.03 The construction works for Channel KT15 was substantially completed on 10 November 2009. CCC should still keep in mind for the 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 for the maintenance period of construction.

8.0 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

- 8.01 No environmental complaint, summons and prosecution was received in this quarter. The statistical summary table of environmental complaint is presented in [Tables 8-1, 8-2 and 8-3](#).

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaints Statistics		
	Frequency	Cumulative	Complaint Nature
26 September– 25 October 2009	0	0	NA
26 October– 25 November 2009	0	0	NA
26 November– 31 December 2009	0	0	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Nature
26 September– 25 October 2009	0	0	NA
26 October– 25 November 2009	0	0	NA
26 November– 31 December 2009	0	0	NA

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Nature
26 September– 25 October 2009	0	0	NA
26 October– 25 November 2009	0	0	NA
26 November– 31 December 2009	0	0	NA

9.0 IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.01 CCC has been implementing the required environmental mitigation measures according to the EM&A Manual of KT15 - Mitigation Measures Implementation Schedule.

9.02 A summary of environmental mitigation measures generally implemented by CCC in this quarter is presented as follows:

Water Quality

- Wastewater were appropriately treated by treatment facilities;
- Drainage channels were provided to convey run-off into the treatment facilities;
- Drainage systems were regularly and adequately maintained.

Air Quality

- Vehicles were clear of mud and debris before leaving the site;
- Site vehicles were limited to 8 km/hr;
- Public roads around the site entrance/exit had been kept clean and free from dust;
- Dust suppression measures were properly provided to reduce dust emission from stockpile.

Noise

- Works and equipment were located to minimize noise nuisance from the nearest sensitive receiver;
- Idle equipments were either turned off or throttled down;
- Powered Mechanical Equipments were covered or shielded by appropriate acoustic materials if practicable.

Waste and Chemical Management

- Wastes were properly segregated into inert and non-inert in appropriate containers/areas;
- Excavated materials were reused where practicable.
- A chemical waste storage area had been provided on site;

General

- The site was generally kept tidy and clean.

9.03 Upon notification of completion by the Contractor, last site audit was conducted on 16 December 2009 which confirmed no works of environmental significance remain was observed. The impact monitoring carried out by ET was ceased on 19 December 2009. The operational phase is commenced following the termination of the construction phase.

9.04 Although the construction phase of the Project has completed, CCC should still keep in mind for the 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 for the maintenance period.

10.0 CONCLUSION

10.01 The EM&A program in this quarter (26 September– 31 December 2009) were undertaken in compliance with the EM&A Manual for Channel KT15. A summary of environmental compliance of air, noise, stream water quality and ecology in this quarter are presented in **Table 10-1**.

Table 10-1 Summary of the Exceedances for Impact Monitoring

Issues	Parameters	Work-Related Exceedance %	Investigation & Corrective Actions
Air Quality	1-hour TSP	0	Not Required for 0% Exceedance
	24-hour TSP	0	Not Required for 0% Exceedance
Noise	Leq (30min) Daytime	0	Not Required for 0% Exceedance
Stream Water	Dissolve Oxygen (DO)	0	Not Required for 0% Exceedance
	Suspended Solids (SS)	0	Not Required for 0% Exceedance
	Turbidity (NTU)	0	Not Required for 0% Exceedance
	pH	0	Not Required for 0% Exceedance
	Ammonia Nitrogen	0	Not Required for 0% Exceedance
	Zinc	0	Not Required for 0% Exceedance
Ecology	Decrease in the total number of species or individuals of wetland dependent bird from baseline	0	Not Required for 0% Exceedance

10.02 Upon notification of completion by the Contractor, last site audit was conducted on 16 December 2009 which confirmed no works of environmental significance remain was observed. The impact monitoring carried out by ET was ceased on 19 December 2009, except for ecological monitoring which was last carried out on 21 December 2009 during the Reporting Period. Due to the termination of impact monitoring and EM&A Programme of construction phase, this is the last (10th) Quarterly Environmental Monitoring & Audit (EM&A) Summary Report for **October to December 2009** containing the monitoring results and audit findings for the period from **26 September 2009 to 31 December 2009** (this quarter).

10.03 No 1-hour or 24-hour TSP exceedance of the Action/Limit Level was recorded in this quarter.

10.04 All measured daytime construction noise levels were below the Limit Level and no complaint was received in this quarter.

10.05 No water quality monitoring results exceedances were recorded in this Reporting Period.

10.06 Three wetland bird monitoring sessions were conducted during the reporting quarter. Non-compliances with the ecological criteria were found during the quarter (20 October, 25 November and 21 December 2009). No intrusions of construction activities, discharge to the wetland areas or adverse impact to the adjacent wetland were observed on 20 October, 25 November and 21 December 2009. Investigation reports revealed that major construction works carried out during the exceedance days were only erection of formwork, steel fixing, tree planting, concreting and installing of fencing. Those activities would not cause excessive disturbance to the adjacent wetlands. Therefore, the non-compliances in number of species of wetland dependent birds were not due to the Project.

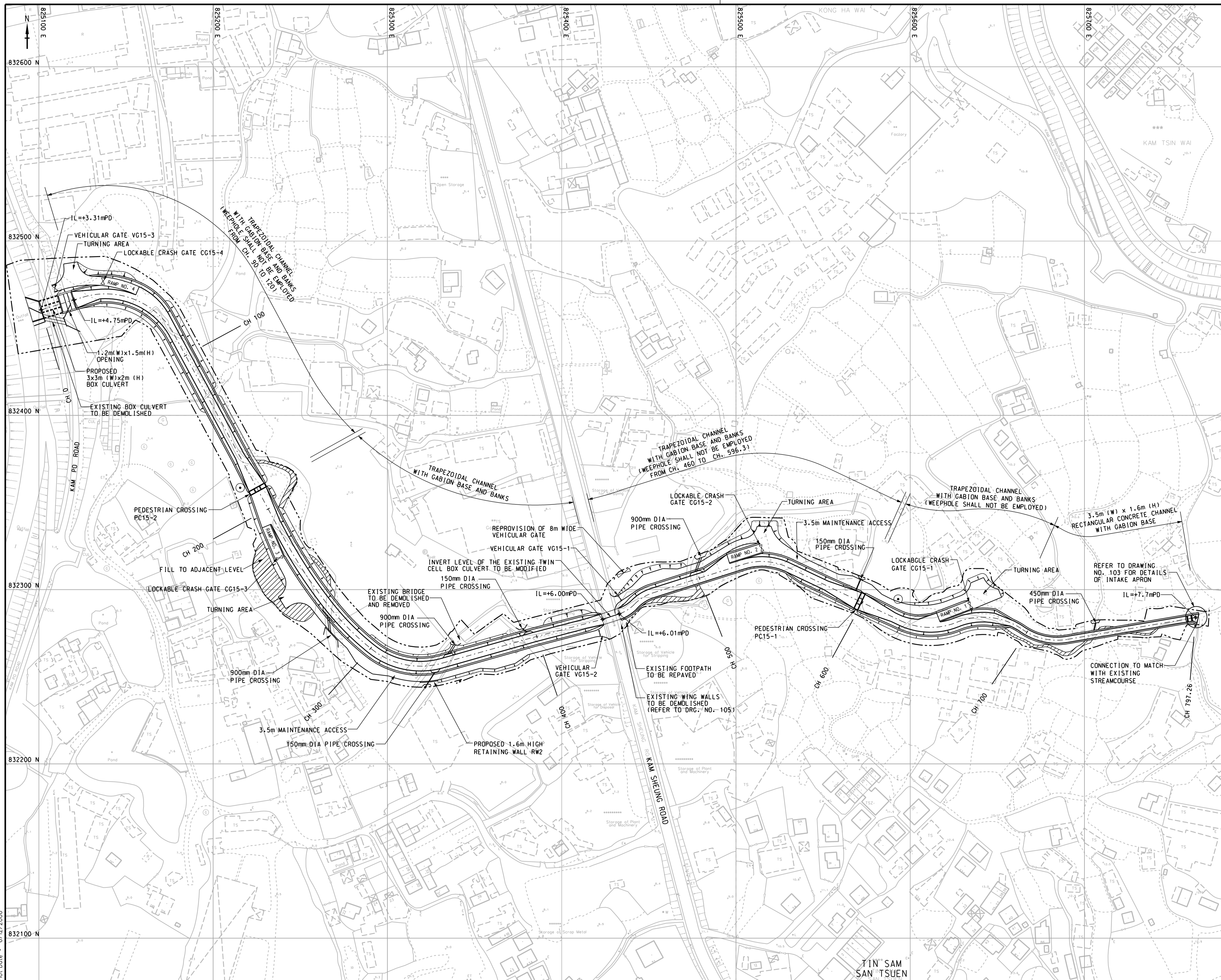
10.07 No environmental complaint, summons or prosecution was received in this quarter.

RECOMMENDATIONS

- 10.08 Based on the weekly ET site inspection and monthly IEC site audit, no non-compliance but **3** observations were recorded in this quarter. Details of the observations were present in the pervious Monthly EM&A Reports (**October 2009, November 2009 and December 2009**). In general, the environmental performance of proposed channel KT15 was acceptable.
- 10.09 Although the construction phase of the Project has completed, CCC should still keep in mind for the 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 for the maintenance period.

Appendix A

Project Site Layout



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NOTES :
 1. REFER TO DRAWING NO. 020 FOR NOTES AND LEGENDS.

Revision	Date	Description	Initial
	Designed	Checked	Drawn
	SFL	KIL	MK
Date	12/05	12/05	12/05
Approved			

CONTRACT NO. DG200602

Contract title
 YUEN LONG, KAM TIN,
 NGAU TAM MEI AND TIN SHUI WAI
 DRAINAGE IMPROVEMENTS, STAGE 1,
 PHASE 2B - CHEUNG CHUN SAN TSUEN
 AND KAM TSIN WAI

Drawing title
 CHANNEL KT15
 GENERAL LAYOUT PLAN

Drawing no.	Scale
021	1:1000 A1 1:2000 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

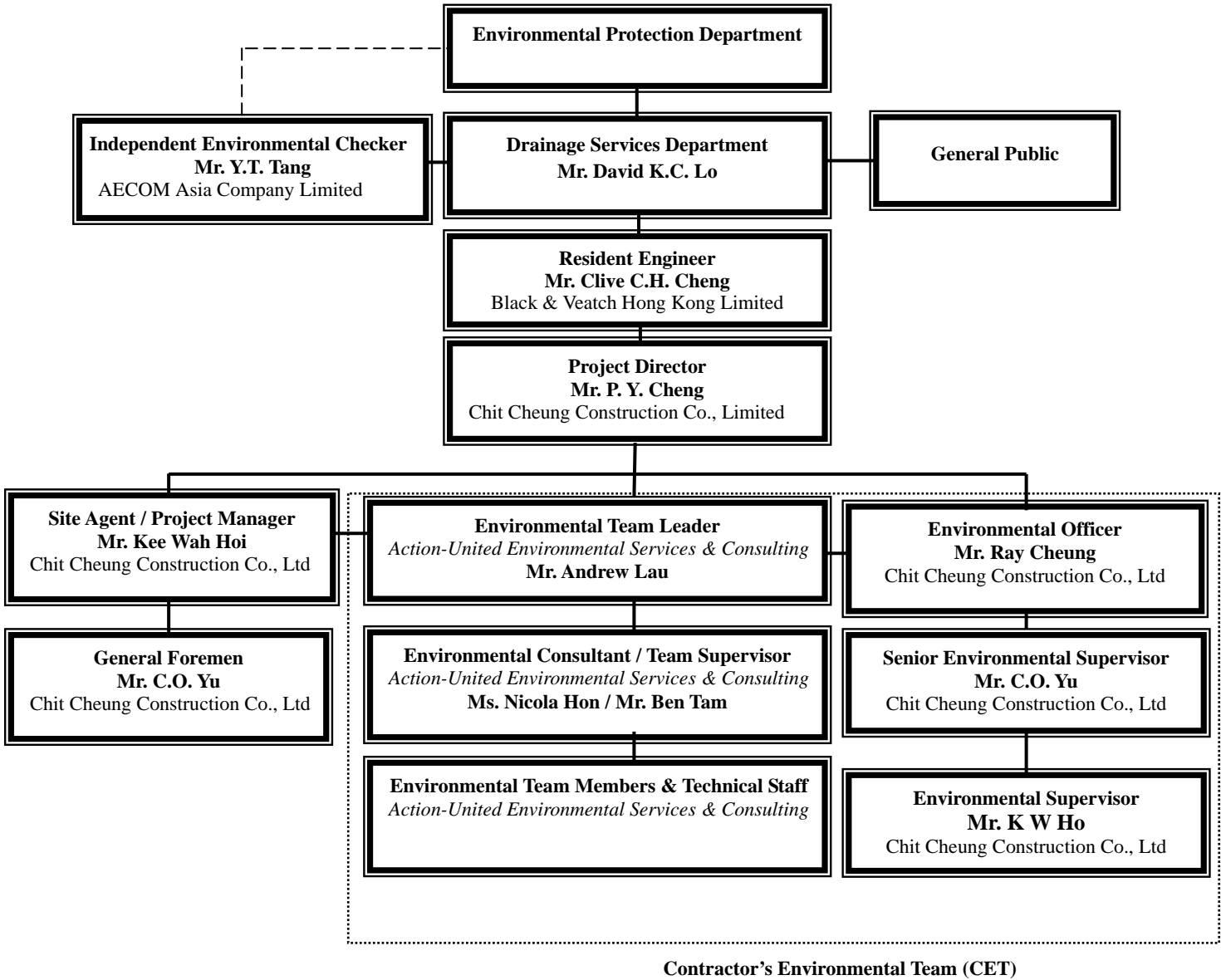
BLACK & VEATCH HONG KONG LIMITED
 博威工程顧問有限公司

Plot Date : 6/12/2006

Appendix B

Environmental Organization Structure

Environmental Organization Structure



Contact Details of Key Personnel

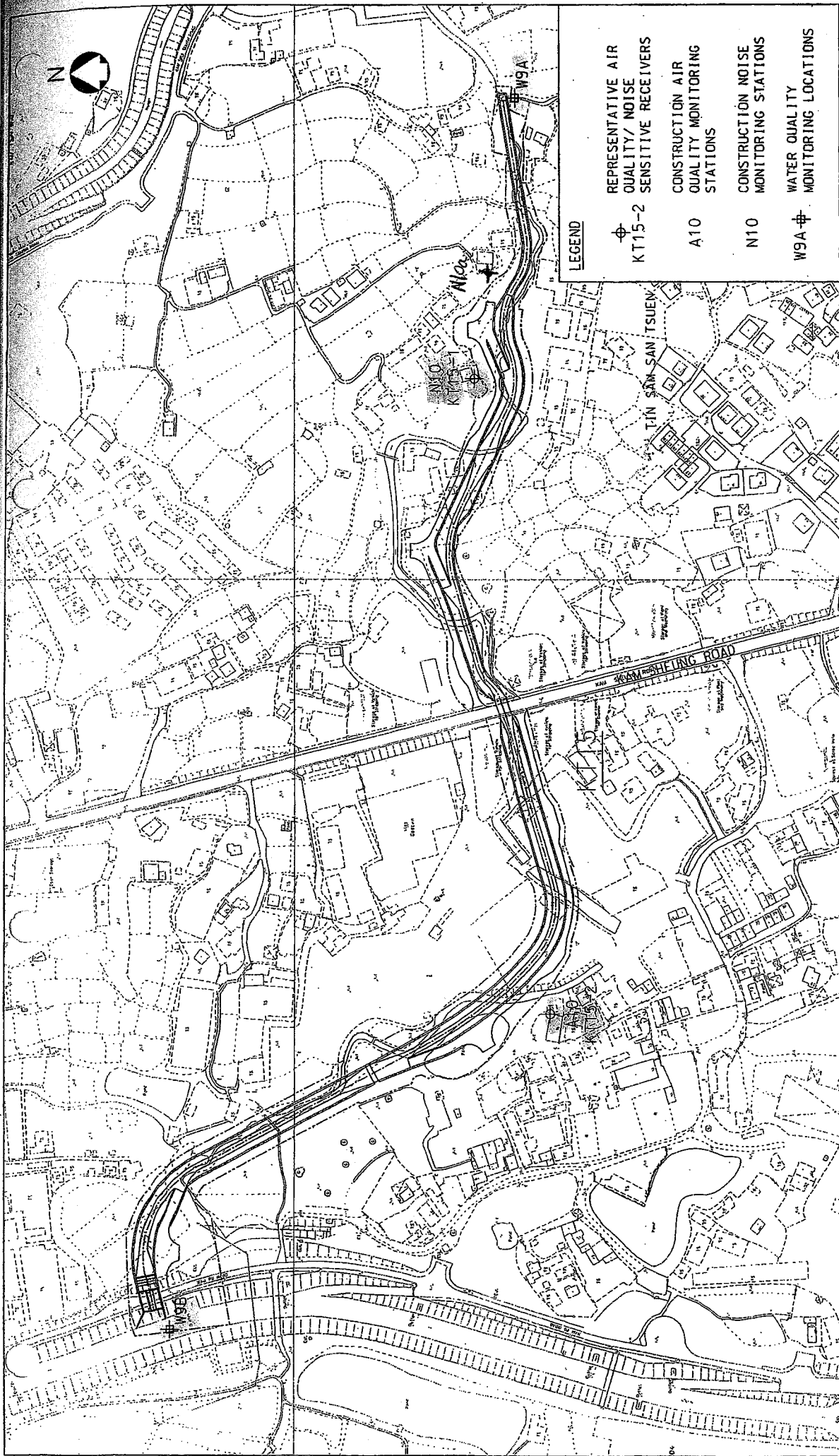
Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
DSD	Employer	Mr. David K.C. LO	2594-7254	2827-8526
B&V	Engineer	Mr. Kelvin N.F. LAU	2601-1000	2601-3988
B&V	Engineer's Representative	Mr. Clive C.H. CHENG	2478-9161	2478-9396
AECOM	Independent Environmental Checker	Mr. Y.T. Tang	3105-8537	2891-0305
CCC	Project Director	Mr. P.Y. CHENG	9023-4821	2403-1162
CCC	Project Manager	Mr. K.W. Hoi	6603-9711	2479-1365
CCC	Site Agent	Mr. K.W. Hoi	6603-9711	2479-1365
CCC	Site Engineer	Mr. Jimmy CHAN	9234-8632	2479-1365
CCC	Environmental Officer	Mr. Ray Cheung	6103-7404	2479-1365
CCC	Senior Environmental Supervisor	Mr. C. O. Yu	9026-9501	2479-1365
CCC	Environmental Supervisor	Mr. K W Ho	9016-0592	2479-1365
CCC	Safety Officer	Mr. C.C Lui	6086-4658	2479-1365
AUES	Environmental Team Leader	Andrew Lau	2959-6059	2959-6079
AUES	Ecologist	Vincent Lai	9406-9784	2959-6079
AUES	Environmental Team Supervisor	Ben Tam	2959-6059	2959-6079

Legend:

- DSD (Employer) - Drainage Services Department
 B&V (Engineer) - Black & Veatch Hong Kong Limited
 CCC (Contractor) - Chit Cheung Construction Company Limited.
 AECOM (IEC) - AECOM Asia Company Limited.
 AUES (ET) - Action-United Environmental Services & Consulting

Appendix C

Locations of Designated Monitoring Station/Locations/Area



LEGEND


- ⊕ REPRESENTATIVE AIR QUALITY/ NOISE SENSITIVE RECEIVERS
KT15-2
- ⊕ CONSTRUCTION AIR QUALITY MONITORING STATIONS
A10
- ⊕ CONSTRUCTION NOISE MONITORING STATIONS
N10
- ⊕ WATER QUALITY MONITORING LOCATIONS
W9A

Figure No.	ATT4-4.3	Revision	-
Reference	-	File Name	3820470201-137.DGN
Prepared	WYC	Checked	MC
Date	DEC. 2002	Scale	1 : 2000

**CONSTRUCTION PHASE AIR QUALITY/NOISE/WATER QUALITY
MONITORING LOCATIONS AT KT15**

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

BLACK & VEATCH HONG KONG LIMITED
 博威工程顧問有限公司



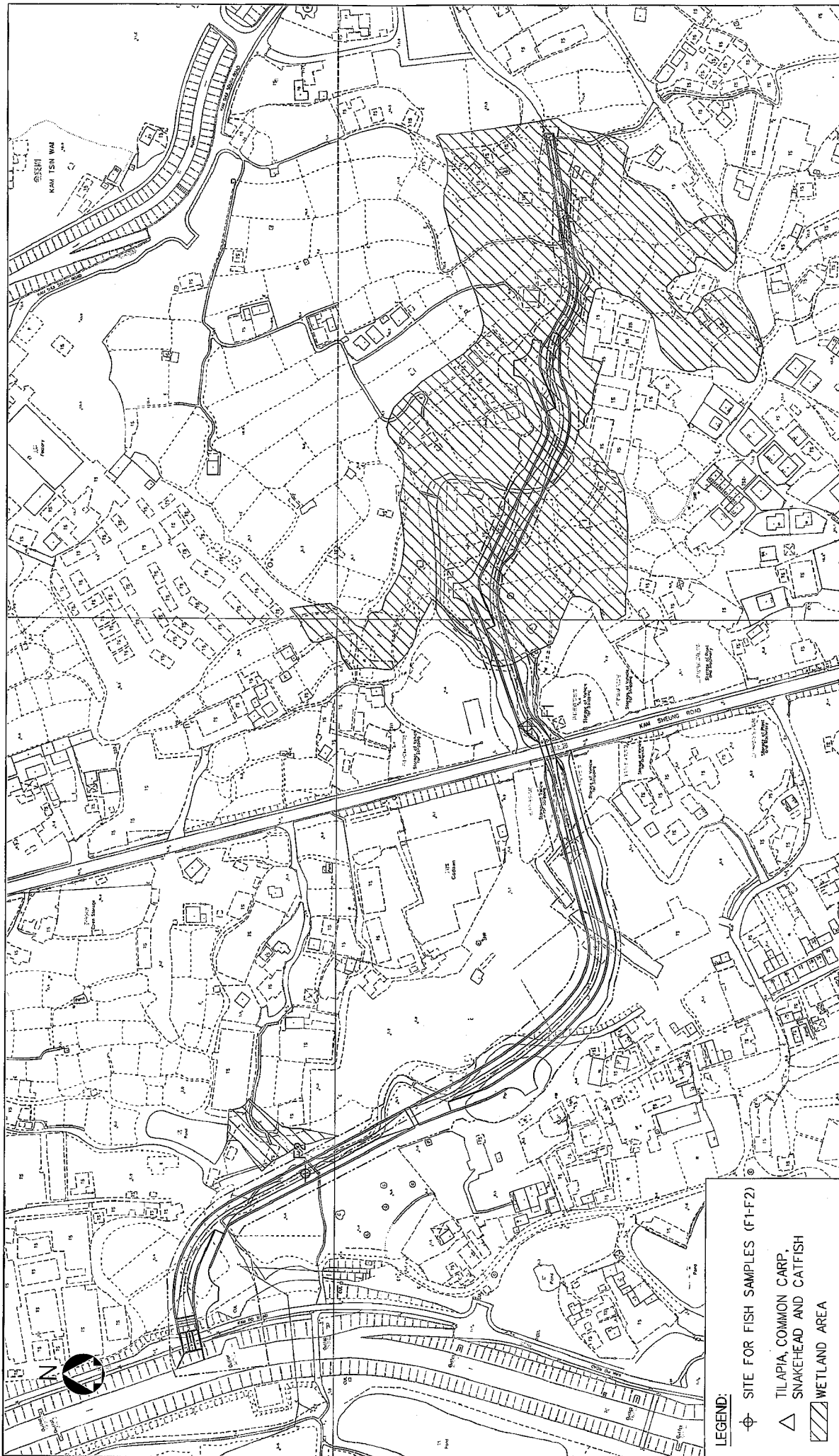



Figure No.	3.3	Revision	0
Reference		File Name	3820470201-114.DGN
Prepared	AEC	Checked	WYC
Date	MAR. 2003	Scale	1 : 2000

Title :

ECOLOGICAL MONITORING AREA KT15

- LEGEND:**
- ⊕ SITE FOR FISH SAMPLES (F1-F2)
 - △ TILAPIA, COMMON CARP, SNAKEHEAD AND CATFISH
 - ▨ WETLAND AREA

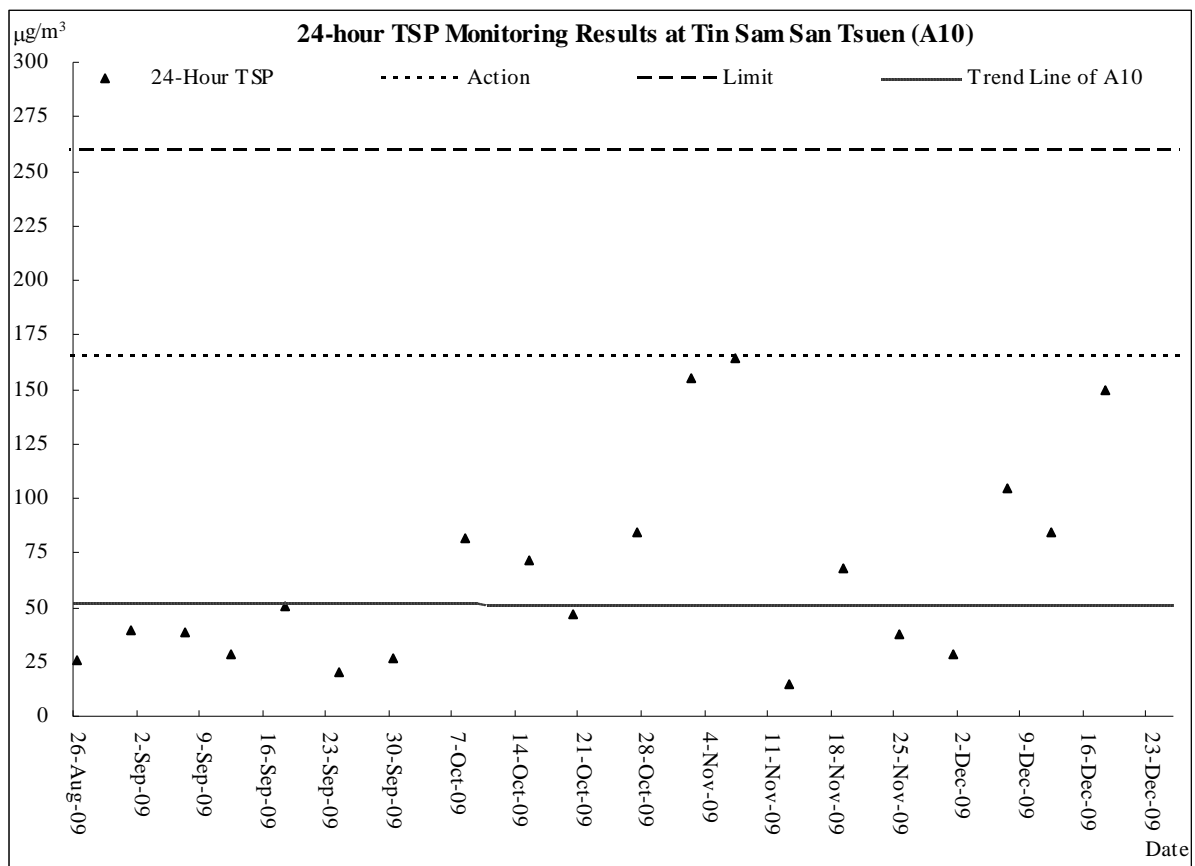
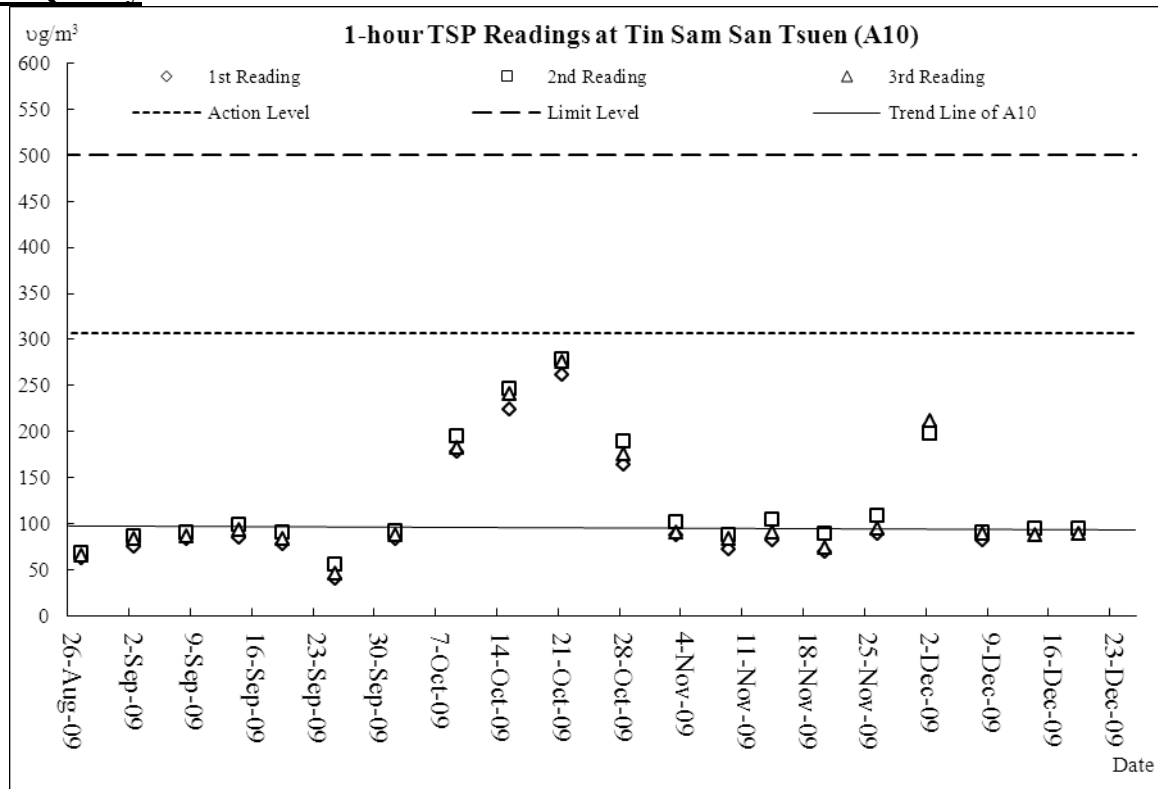
YUEN LONG, KAM TIN,
 NGAU TAM MEI AND TIN SHUI WAI
 DRAINAGE IMPROVEMENT, STAGE1, PHASE 2B

 **BLACK & VEATCH HONG KONG LIMITED**
 博威工程顧問有限公司

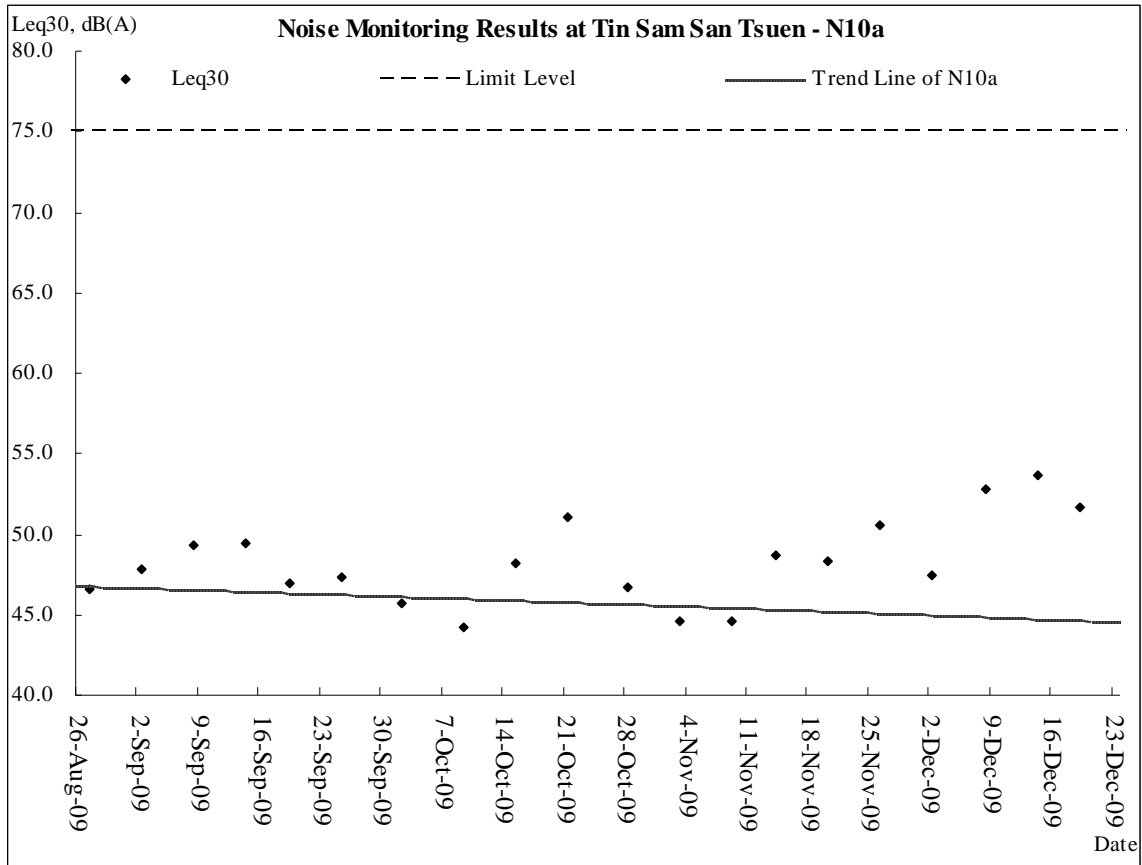
Appendix D

Graphical Plots of Air Quality, Construction Noise & Stream Water Quality Monitoring

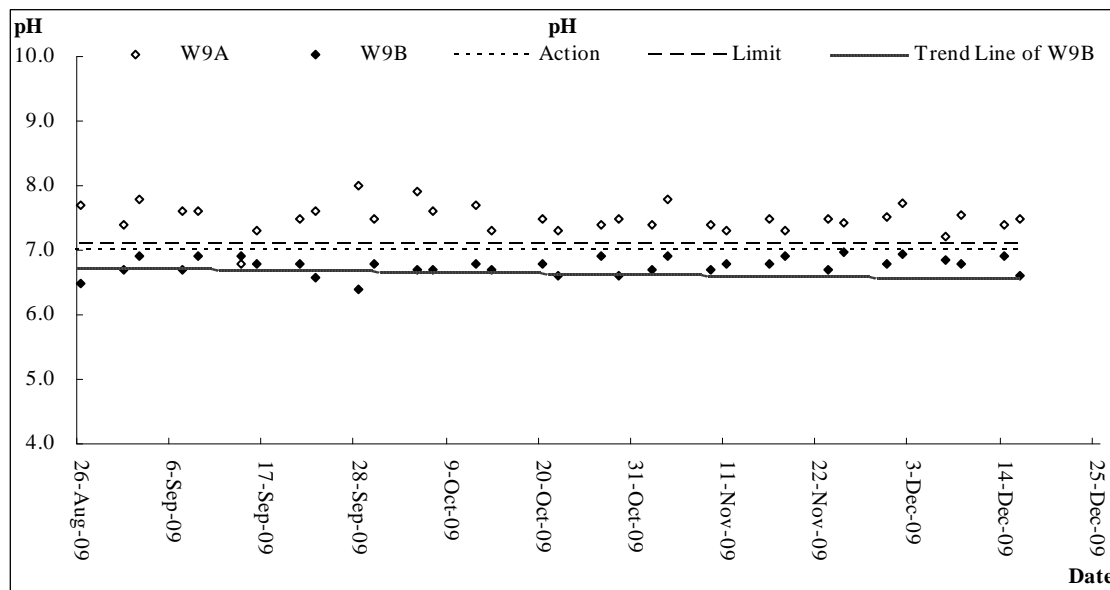
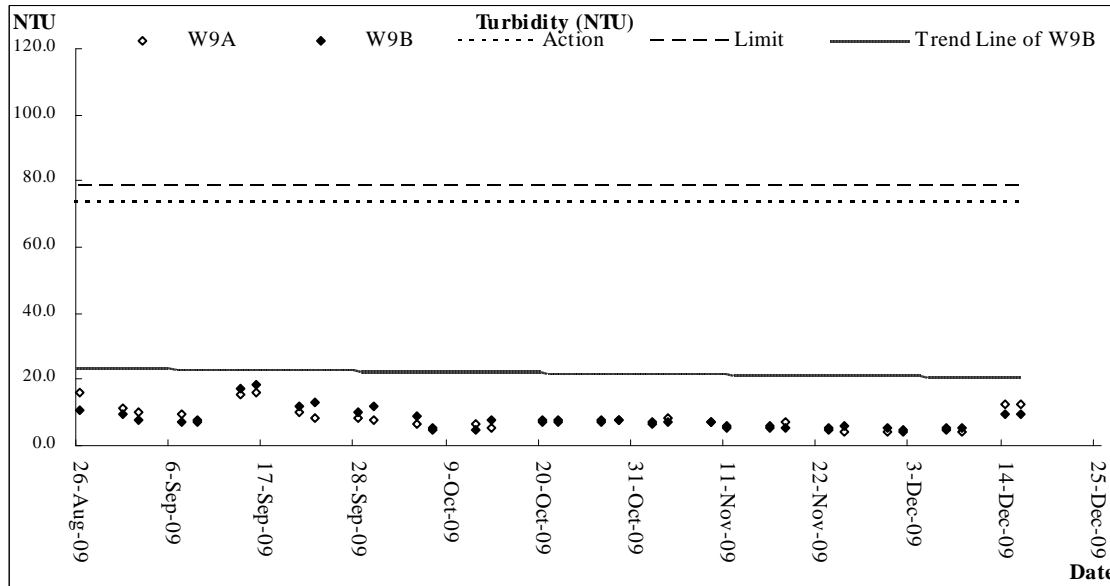
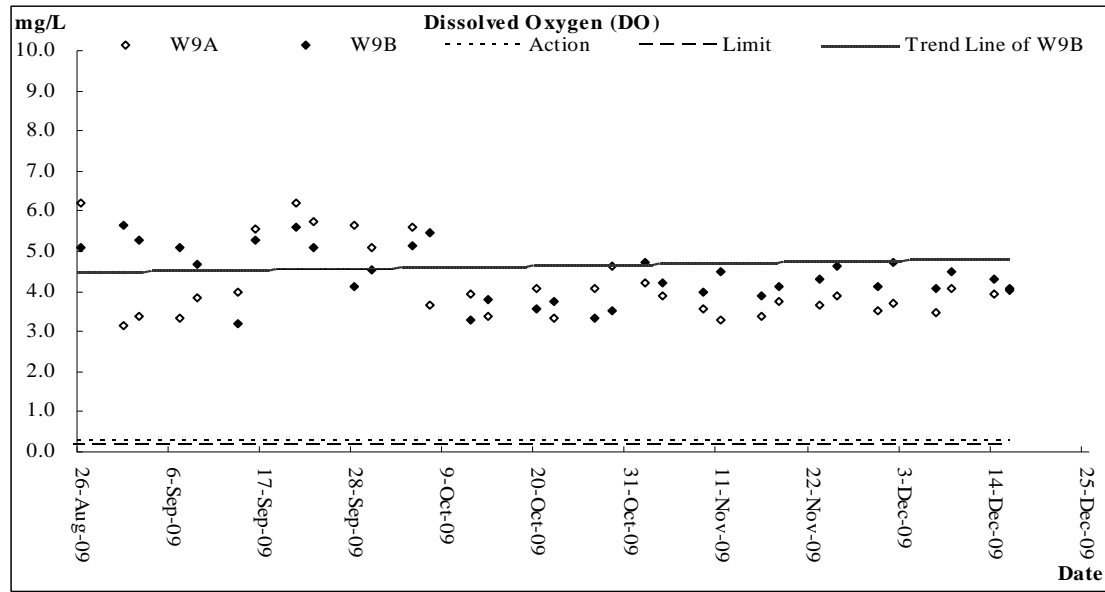
Air Quality

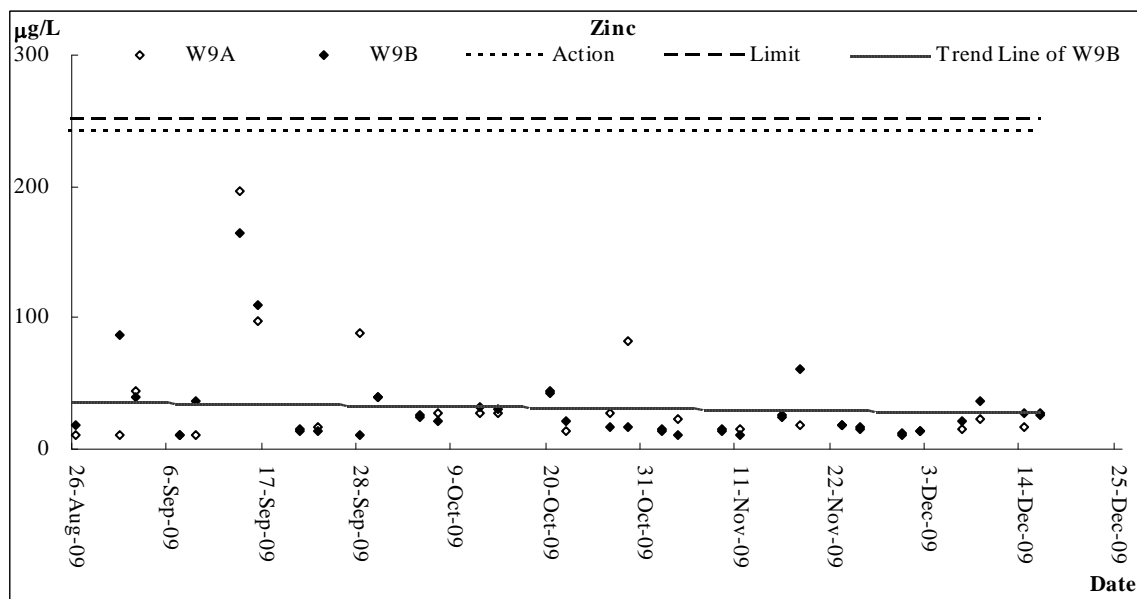
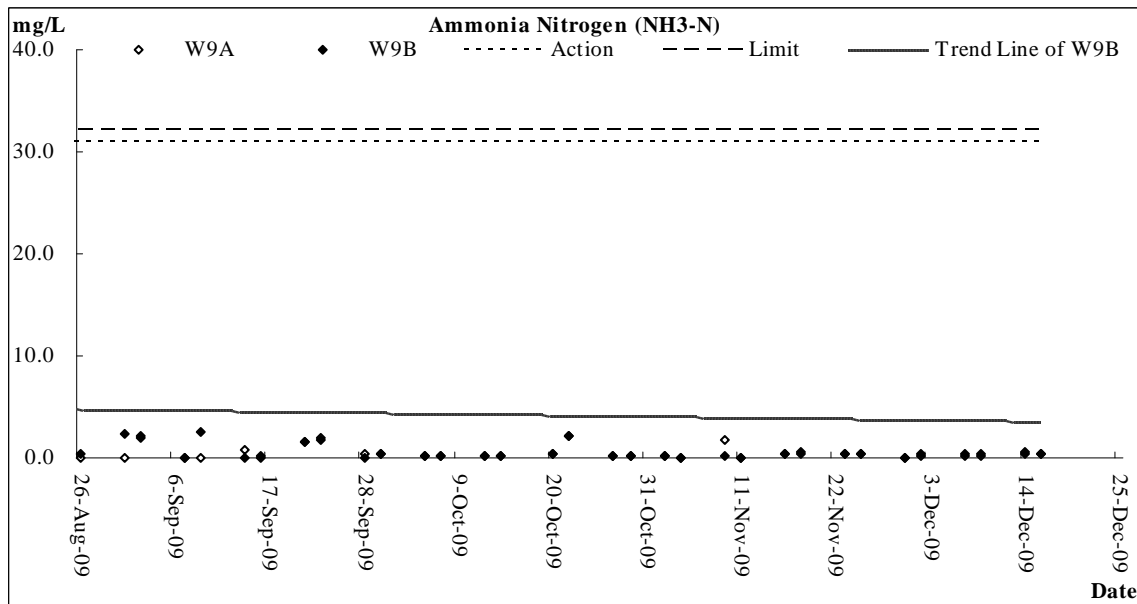
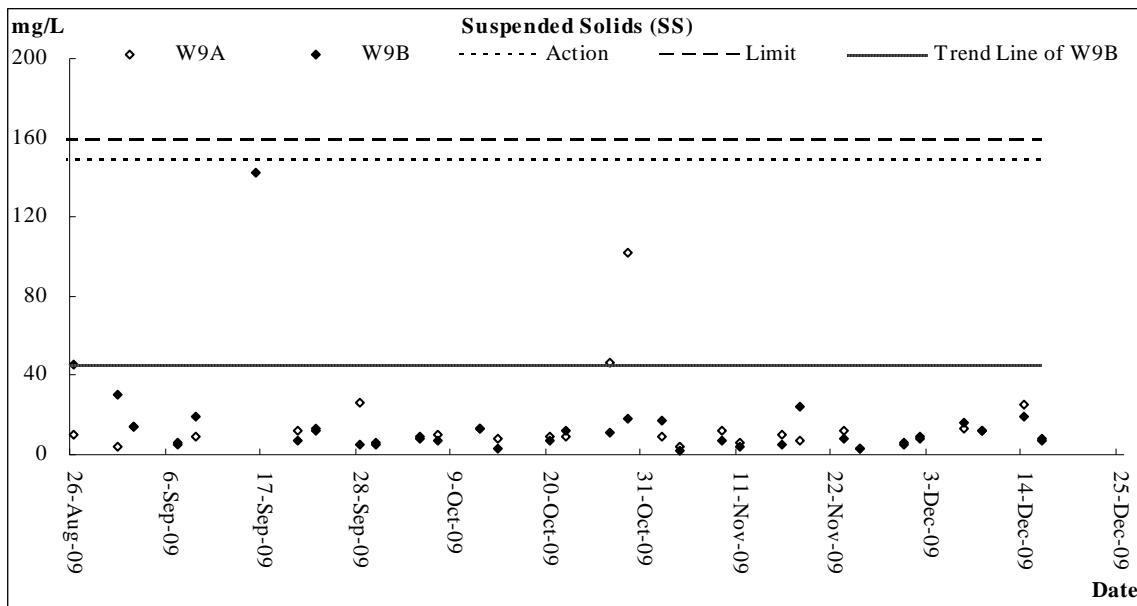


Construction Noise



Stream Water Quality





Appendix E

Meteorological Data

Meteorological Data Extracted from HKO in the Reporting Quarter

Date		Weather	Lau Fau Shan Weather Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
Sat	26-Sep-09	fine/dry/very hot/moderate	0.0	29.5	9.3	70	80
Sun	27-Sep-09	fine/hot/moderate/fresh	0.0	29.1	16.0	67	40
Mon	28-Sep-09	cloudy/rain/squally thunderstorms/fresh/strong	27.0	25.9	16.5	84	60
Tue	29-Sep-09	overcast/rain/fresh/strong	32.5	24.5	14.2	94	70
Wed	30-Sep-09	cloudy/rain/moderate/fresh	50.0	25.8	13.5	89	70
Thu	1-Oct-09	Holiday	0.0	27	11.1	77	80
Fri	2-Oct-09	fine/dry/cloudy/moderate	0.0	27.8	9.8	70	80
Sat	3-Oct-09	Holiday	0.0	27.4	9.6	69	150
Sun	4-Oct-09	fine/dry/moderate	0.0	27.1	12.4	60	360
Mon	5-Oct-09	fine/dry/moderate/fresh	0.0	27.1	14.5#	48	010#
Tue	6-Oct-09	fine/dry/moderate/fresh	0.0	27.6	11.8	58	10
Wed	7-Oct-09	fin/dry/moderate	0.0	27.3	10.2	60	150
Thu	8-Oct-09	fine/dry/moderate	0.0	25.6	10.1	68	90
Fri	9-Oct-09	fine/dry/moderate	0.0	25.8	10.1	61	10
Sat	10-Oct-09	fine/dry/moderate	0.0	26.4	11.3	57	80
Sun	11-Oct-09	cloudy/rain/fresh/strong	2.5	25.7	14.0	79	80
Mon	12-Oct-09	cloudy/rain/fresh/strong	0.0	25.9	18.0	77	90
Tue	13-Oct-09	sunny	0.0	27.2	16.0	72	90
Wed	14-Oct-09	cloudy/rain/moderate/fresh	0.0	26.4	12.0	75	90
Thu	15-Oct-09	sunny intervals/rain	0.0	25	10.5	73	50
Fri	16-Oct-09	fine/haze/moderate	0.0	25.8	9.0	78	80
Sat	17-Oct-09	fine/dry/hazy/moderate	0.0	26.4	11.3	68	80
Sun	18-Oct-09	cloudy/moderate/fresh	0.0	26.4	16.0	63	90
Mon	19-Oct-09	cloudy/rain/moderate/fresh	0.0	26.3	15.9	76	80
Tue	20-Oct-09	cloudy/rain/fresh/strong	0.5	23.9	18.8	82	80
Wed	21-Oct-09	cloudy/moderate	0.0	24.7	9.2	76	80
Thu	22-Oct-09	fine/haze/moderate	0.0	25.5	7.8	71	100
Fri	23-Oct-09	fine/dry/fazy/light winds	0.0	25.7	10.5	67	90
Sat	24-Oct-09	Fine and dry with some haze.	0.0	25.7	9.8	66	80
Sun	25-Oct-09	Fine and dry with some haze.	0.0	24.9	10.3	77	150

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Date		Weather	Lau Fau Shan Weather Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
Mon	26-Oct-09	Holiday	0.0	24.9	9.8	74	150
Tue	27-Oct-09	Fine/Moderate/Fresh	0.0	24.7	14.4	66	100
Wed	28-Oct-09	Fine/Moderate/Fresh	0.0	24.7	10.1	66	90
Thu	29-Oct-09	Fine/Dry/Moderate	0.0	24.9	9.8	69	80
Fri	30-Oct-09	Fine/Haze/Moderate	0.0	24.6	8.5	72	100
Sat	31-Oct-09	Fine/Dry/Moderate	0.0	25	10.2	70	80
Sun	1-Nov-09	Fine/Dry/Strong	0.0	26.1	16.0	63	40
Mon	2-Nov-09	Dry/Fine/Cloudy/Moderate	0.0	22.6	28.3	40	40
Tue	3-Nov-09	Dry/Cloudy/Moderate	0.0	17.2	17.7	39	40
Wed	4-Nov-09	Fine/Dry/Moderate/Fresh	0.0	19.6	9.5	46	80
Thu	5-Nov-09	Cloudy/Moderate	0.0	21.7	8.7#	61	080#
Fri	6-Nov-09	Fine/Cloudy/ Sunny	0.0	23.2	7.8	80	140
Sat	7-Nov-09	Cloudy/Sunny Intervals/Moderate	0.0	25.3	8.9	75	80
Sun	8-Nov-09	Cloudy/Showers/Moderate	0.0	24.7	7.1	84	90
Mon	9-Nov-09	Cloudy/Showers/Moderate/Light	0.0	25.7	8.2	81	160
Tue	10-Nov-09	Fine/Cloudy/Light	0.0	25.5	11.1	82	160
Wed	11-Nov-09	Cloudy/Rain/Moderate/Fresh	0.0	26.5	18.0	74	140
Thu	12-Nov-09	Cloudy/Rain/Moderate/Fresh	13.5	24.8	17.0	84	140
Fri	13-Nov-09	Sunny/Fresh/Strong	1.5	16.6	26.2	79	360
Sat	14-Nov-09	Dry/Sunny	0.0	14.3	13.1	74	50
Sun	15-Nov-09	Cloudy/Rain	1.0	16.1	9.0	83	70
Mon	16-Nov-09	Cloudy/Rain/Moderate/Fresh	10.5	13.9	20.1	90	10
Tue	17-Nov-09	Cloudy/Dry/Sunny Interval/Fresh	0.0	10.7	29.8	67	10
Wed	18-Nov-09	Cloudy/Cold/Dry/Moderate/Fresh	0.0	10.1	17.4	66	10
Thu	19-Nov-09	Cloudy/Cool/Moderate/Fresh	0.0	13.1	16.9	62	10
Fri	20-Nov-09	Fine/Dry/Cloudy/Fresh/strong	0.0	13.6	21.2	57	10
Sat	21-Nov-09	Cloudy/Dry/Sunny	0.0	13.3	17.0	51	10
Sun	22-Nov-09	Fine/Haze/Light/Moderate	0.0	14.6	10.3	53	10
Mon	23-Nov-09	FineHazy/Light/Moderate	0.0	17	11.0	58	90
Tue	24-Nov-09	Fine/Hazy/Light/Moderate	0.0	18.7	8.2	74	150
Wed	25-Nov-09	Sunny/Cloudy/Moderate/Fresh	0.0	19.4	9.8	82	90

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Date	Weather	Lau Fau Shan Weather Station				
		Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
Thu 26-Nov-09	Sunny periods. Moderate east to	0.0	21.5	11.0	76	90
Fri 27-Nov-09	Sunny periods in the afternoon.	0.0	22.2	8.4	77	90
Sat 28-Nov-09	Mainly fine and dry. Fresh easterly	0.0	22	11.0	67	110
Sun 29-Nov-09	Fine but hazy. Dry during the day.	0.0	20.3	10.0	71	80
Mon 30-Nov-09	Fine but hazy. Moderate north to	0.0	18.1	12.2	69	80
Tue 1-Dec-09	Mainly fine but hazy. Moderate	0.0	17.1	10.4	70	90
Wed 2-Dec-09	Fine and dry. Moderate to fresh north	0.0	19.2	11.6#	67	360#
Thu 3-Dec-09	Fine and dry. Cool in the morning.	0.0	16.6	18.1	56	10
Fri 4-Dec-09	Fine and dry apart from some haze.	0.0	16.8	11.4	56	90
Sat 5-Dec-09	Very dry in the afternoon. Moderate	0.0	16.5	11.9	52	80
Sun 6-Dec-09	Cloudy. Fresh easterly winds,	0.0	18.2	10.8	63	80
Mon 7-Dec-09	Mainly cloudy with a few rain	6.0	17	14.5	88	80
Tue 8-Dec-09	Mainly cloudy with a few rain	3.5	17.6	12.8	92	50
Wed 9-Dec-09	Mainly fine apart from relatively low	0.0	18.3	6.5	90	80
Thu 10-Dec-09	Mainly fine apart from some haze	0.0	19	9.1	86	350
Fri 11-Dec-09	Sunny periods. Visibility relatively	0.0	19.8	8.5	85	90
Sat 12-Dec-09	Sunny periods. Moderate to fresh	0.0	21	11.0	79	90
Sun 13-Dec-09	Cloudy with a few rain patches.	0.0	19.5	8.0	84	140
Mon 14-Dec-09	Mainly cloudy. Visibility rather low.	0.0	19.8	14.0	81	80
Tue 15-Dec-09	Moderate northerly winds,	7.5	19	13.8	85	80
Wed 16-Dec-09	Cloudy with a few rain patches at	0.5	12.3	16.4	77	50
Thu 17-Dec-09	Sunny intervals and dry tomorrow	0.0	10.8	18.1	75	10
Fri 18-Dec-09	Mainly cloudy and cold. Dry during	0.0	10.8	13.9	68	50
Sat 19-Dec-09	Cold and dry. Cloudy at first. Sunny	0.0	12.2	12.9	58	40

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Appendix F

Response to Comments

Contract No. DC/2006/02
 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai
 KT15 – Quarterly EM&A Summary Report for 26 September 2009 – 25 December 2009 (R1606 Version 1)
 Response to IEC's comments [Received from e-mail on 17 December 2010]

Items	Section / Paragraph	Comments	Response to Comments
1	Executive Summary,	Please insert the text mentioning the termination of EM&A Programme for construction phase and the impact monitoring for construction phase	The relevant information has been inserted in the text ES04.
2	ES09., Table 2-1, Table 8-1, Table 8-2, Table 8-3	The reporting period should be from 26 November 2009 to 31 December 2009.	All the tables have been revised.
3	ES10.	Please consider to provide text to remind the Contractor to implement the required environmental mitigation measures as stated in the EM&A Manual during the maintenance period.	The relevant information has been inserted in the text ES10.
4	ES15., Section 10.05	According to the monthly EM&A Report for December 2009, the “installation of fencing” should be one of the major construction activities carried out on 21 December 2009	Noted and revised.
5	TOC	Page number of Section 6.0 Waste Management should be 8.	Amended.
6	Section 1.04	Please insert the text mentioning the termination of EM&A Programme for construction phase and the impact monitoring for construction phase.	The relevant information has been inserted in the text Section 1.04.
7	Section 3.06,4.08,5.07	Please further elaborate the meaning of “photographic record” stated in the text. Please consider to revise the text as the format in the monthly EM&A report.	Noted and amended.
8	Section 5.0	Please insert the text mentioning the termination of EM&A Programme for construction phase and the impact monitoring for construction phase.	The relevant information has been inserted in the text Section 5.01.
9	Table 5-1	Please revise the table as Limit Level exceedance should be recorded in “species number” in these three reporting months.	The tables have been revised.
10	Section 5.06	Please state in text to clarify whether the ecological exceedance is Project-related or not.	The relevant information has been inserted in the text Section 5.07.
11	Section 7.0	Please insert the text mentioning the termination of EM&A Programme for construction phase.	The relevant information has been inserted in the text Section 7.01.

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 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai
 KT15 – Quarterly EM&A Summary Report for 26 September 2009 – 25 December 2009 (R1606 Version 1)
 Response to IEC's comments [Received from e-mail on 17 December 2010]

Items	Section / Paragraph	Comments	Response to Comments
12	Section 7.02, 10.07	According to the relevant monthly EM&A reports, the total number of observations should be 3 instead of 12.	Noted and amended.
13	Section 9.0	Please consider to provide text to mention the termination of EM&A Programme for construction phase and to remind the Contractor to implement the required environmental mitigation measures as stated in the EM&A Manual during the maintenance period.	The relevant information has been inserted in the text Section 9.03 and 9.04.
14	Section 10.0	Please consider to provide text to mention the termination of EM&A Programme for construction phase and impact monitoring for construction phase and to remind the Contractor to implement the required environmental mitigation measures as stated in the EM&A Manual during the maintenance period.	The relevant information has been inserted in the text Section 10.02 and 10.09.
15	Appendix D	The trend lines in the graphs are missing.	The graphs have been updated.
16	Appendix E	Please insert the remark for the “#”, which should indicate the incomplete meteorological data. Also, please insert the note for the round-off method of the measured rainfall levels.	Done.

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KT15 – Quarterly EM&A Summary Report for 26 September 2009 – 25 December 2009 (R1606 Version 2)

Response to IEC's comments [Received from e-mail on 21 December 2010]

Items	Section / Paragraph	Comments	Response to Comments
1	Cover Page	The Submission date for Version 2 should be 21 December 2010.	Amended.
2	General	Please cross-check the word formatting of the text as they are inconsistent, especially for Section 1.04, 3.06, 5.01, 9.02	Amended.
3	ES04., Section 1.04 and 10.02	Please insert the word “of construction phase” after “termination of impact monitoring and EM&A Programme”.	Amended.
4	ES04. and Section 10.02 Last sentence	Please consider to rewrite as “this is the last (10th) Quarterly Environmental Monitoring and Audit (EM&A) Summary Report for..”.	Amended.
5	ES10. and Section 7.03 First sentence	Please consider to rewrite as “The construction works for Channel KT15 was substantially completed on 10 November 2009.	Amended.
6	Section 3.06,4.08,5.07	Please consider to rewrite the text and make reference to the text in Section 3.06, 4.07 and 5.11 of monthly EM&A Report for December 2009 (Rev. 3).	Amended.
7	Section 5.01	The last ecological monitoring should be conducted on 21 December 2009 instead of 25 December 2009. The text should be written as “As agreed by the IEC and ER, the EM&A Programme for construction phase was ceased on 31 December 2009.”	Amended.
8	Table 5-1	Please revise the table as Limit Level exceedance should only be recorded in “species number” in these three reporting months.	Amended.
9	Section 5.08	Please insert the text to report that some of the trees recorded during the baseline monitoring were removed due to the construction works.	Amended.
10	Appendix D	The trend line in the 1-hou TSP graph is missing.	Amended.

Contract No. DC/2006/02
 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai
 KT15 – Quarterly EM&A Summary Report for 26 September 2009 – 25 December 2009 (R1606 Version 3)
 Response to IEC's comments [Received from e-mail on 23 December 2010]

Items	Section / Paragraph	Comments	Response to Comments
1	ES04., Section 1.04 and 10.02	Please insert the word “of construction phase” after “termination of impact monitoring and EM&A Programme”. Also, please care on the word formatting of the text.	Amended.
2	Text below Section 3.05	The numbering of the text should be “3.06” instead of “3.01”. Please revise it.	Amended.
3	Section 4.07	For Section 4.07, please consider to rewrite the sentence as “Bird survey should be conducted in monthly basis throughout the year and other faunal groups..are conducted monthly in wet season (April to July inclusive) in the seasonal wetland area”.	Amended.
4	Section 5.08 Last sentence	Please revise the text as “in the reporting quarter.”	Amended.
5	Appendix D	The legend for trend line in the 1-hou TSP graph is missing.	Amended.