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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

KT15 Quarterly EM&A Summary Report - 26<sup>th</sup> September 2008 to 25<sup>th</sup> December 2008

PREPARED FOR

CHIT CHEUNG CONSTRUCTION COMPANY LIMITED

#### **Quality Index**

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| Rev. No. | Date        | Remarks  |
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|          |             |  |

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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 03 April 2007. According to the contract specification requirements an Environmental Monitoring & Audit program 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 was defined as Designated Project and governed by 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 (EP-231/2005/A) and Environmental Monitoring &Audit Manual (EM&A Manual) for Secondary Channel KT14 & KT15 (August 2005). For this Contract (DC/2006/02) only covered KT15 and KT14 will carried out under other contract.
- ES04. This is the 6<sup>th</sup> Quarterly Environmental Monitoring & Audit (EM&A) Summary Report for October 2008 to December 2008 reporting the monitoring results and audit findings under the project EM&A program for the reporting quarter from 26 September 2008 to 25 December 2008.

#### BREACH OF ACTION AND LIMIT (AL) LEVELS

ES05. Dated and parameters exceedance recorded in this reporting period are summaries in following table.

| Monitoring  | Parameters                         | Action Level | Limit Level                  |
|-------------|------------------------------------|--------------|------------------------------|
| Air Quality | 1-Hour TSP                         | -            | -                            |
|             | 24-Hour TSP                        | -            | -                            |
| Noise       | Leq (30min) Daytime                | -            | -                            |
|             | Dissolve Oxygen (DO)               | -            | -                            |
|             | Turbidity (NTU)                    | -            | 03 Dec 08                    |
| Stream      | pН                                 | -            | -                            |
| Water       | Suspended Solids (SS)              | -            | 02, 15 Oct and 03 Dec 08     |
|             | Ammonia Nitrogen                   | -            | -                            |
|             | Zinc                               | -            | -                            |
| Ecology     | Number of species of wetland birds | -            | 21 Oct, 22 Nov and 25 Dec 08 |
|             | Total number of wetland birds      | -            | 22 Nov and 25 Dec 08         |

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

#### **COMPLAINTS LOG**

ES06. No environmental complaint was received in this reporting quarter.

#### NOTIFICATIONS OF ANY SUMMONS AND SUCCESSFUL PROSECUTIONS

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



#### **REPORTING CHANGES**

ES08. There are no changes to be reported in this reporting quarter.

#### CONSTRUCTION ACTIVITIES IN THE REPORTING QUARTER

ES09. Construction activities in the reporting quarter (26 September 2008 – 25 December 2008) are listed in the following table:-

| Reporting Period                    | Construction Activities   |
|-------------------------------------|---|
| 26 September 2008 – 25 October 2008 | Construction and excavation works;                                |
|                                     | <ul> <li>Dumping activities;</li> </ul>                           |
|                                     | Sheet pile driving;   |
|                                     | <ul> <li>Tree protection and tree transplanting works;</li> </ul> |
|                                     | <ul> <li>Utilities companies liaison;</li> </ul>                  |
|                                     | <ul> <li>Carrying out joined survey;</li> </ul>                   |
|                                     | Gabion Installation; and  |
|                                     | Marine dumping of Type 1 material                                 |
| 26 October 2008 – 25 November 2008  | <ul> <li>Construction and excavation works;</li> </ul>            |
|                                     | <ul> <li>Dumping activities;</li> </ul>                           |
|                                     | Sheet pile driving;   |
| 26 November – 25 December 2008      | <ul> <li>Tree protection and tree transplanting works;</li> </ul> |
| 20 November – 23 December 2000      | <ul> <li>Utilities companies liaison;</li> </ul>                  |
|                                     | <ul> <li>Carrying out joined survey; and</li> </ul>               |
|                                     | Gabion Installation   |

ES10. Potential environmental impacts for this project generally include air quality, noise, ecology, surface runoff and construction waste. The contractor shall properly implement the required environmental mitigation measures as per the Implementation Schedule in the EM&A manual to ensure no significant adverse environmental impact arises from the construction works. The contractor was reminded to provide adequate surface runoff control especially in rainy season and maintain good house-keeping throughout the construction phase.

#### EM&A ACTIVITIES IN THE REPORTING QUARTER

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

| • | 1-Hour TSP Monitoring  | 45 | <b>Events</b> |
|---|------------------------|----|---------------|
| • | 24-Hour TSP Monitoring | 16 | Events        |
| • | Noise Monitoring       | 15 | <b>Events</b> |
| • | Stream Water Quality   | 54 | <b>Events</b> |
| • | Ecology (Fauna)        | 3  | Event         |
| • | Site Inspection Audit  | 13 | Times         |

#### **AIR QUALITY**

ES12. No Action or Limit Level of 1-Hour and 24-Hour TSP exceedance was recorded in this reporting quarter.

#### **CONSTRUCTION NOISE**

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



# STREAM WATER QUALITY

- ES14. Two SS exceed the Limit Level at W9B were recorded on 02 and 15 October 2008. From the monitoring team on-site observations and the Contractor's information, no excavation or major discharge on-site was observed on-site (02 and 15 October 2008). Desilting facilities and proper mitigation measures were implemented on-site. Silty water from Kam Tin Nullah upstream was observed during the sampling (02 and 15 October 2008). The exceedances of SS on 02 and 15 October 2008 were not project related.
- ES15. One Limit Level exceedance of Turbidity and SS at W9B was recorded on 03 December 2008. Additional water sample at the Kam Tin River upstream was collected and relevant high results of Turbidity (390NTU) and SS (449mg/L) also obtained. Therefore, the exceedance on 03 December 2008 was considered not project related.

#### **ECOLOGY (FAUNA)**

ES16. Non-compliance with the ecological criteria was found during the reporting quarter (21 October, 22 November and 25 December 2008). No intrusions of construction activities into the wetland areas nor adverse impact was observed. Based on the findings in the pervious monthly monitoring, the non-compliance in wetland dependent bird and fauna was not caused by the project.

#### SUMMARY OF MONITORING EXCEEDANCES

ES17. A summary of monitoring exceedances in this reporting quarter of air quality, noise, stream water quality and ecology (fauna) monitoring are presented below:

| Env.<br>Quality | Parameters   | Work-Related<br>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   |
|                 | рН   | 0                            | Not Required for 0% Exceedance   |
|                 | Ammonia Nitrogen   | 0                            | Not Required for 0% Exceedance   |
|                 | Zinc   | 0                            | Not Required for 0% Exceedance   |
| 0.5             | Decrease in the total number of species or individuals of wetland dependent bird from baseline |                              | Not Required for 0% Exceedance   |
|                 | Decrease in the total number of<br>species or individuals of wetland<br>faunal from baseline   |                              | Monitoring not required for August and<br>September 2008 in this reporting quarter |

# SITE INSPECTION BY EXTERNAL PARTIES

ES18. No site inspection was undertaken by external parties in this reporting period.



#### 1.0 INTRODUCTION

- 1.01 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 03 April 2007. According to the contract specification requirements the Project should implemented an Environmental Monitoring & Audit (EM&A) program by an Independent Environmental Team (ET) throughout the construction period in compliance with the requirements as stated in the project particular specification, Environmental Permit (EP-231/2005/A) and EM&A Manual for KT15. The location of the project site is presented in Appendix A and the construction program is presented in pervious monthly EM&A reports.
- 1.02 The works to be executed at the propose drainage 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 KT15 and the Environment Impact Assessment Ordinance (EIAO).
- 1.04 This report summaries the monitoring results and inspection findings for the reporting quarter October 2008 to December 2008 during the period from 26 September 2008 to 25 December 2008 under the project EM&A program.

#### REPORT STRUCTURE

1.05 The 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 reporting quarter were summaries in **Table 2-1**.

Table 2-1 Major Construction Activities in the Reporting Quarter

| Reporting Period                    | Construction Activities   |  |
|-------------------------------------|---|--|
| 26 September 2008 – 25 October 2008 | Construction and excavation works;                                |  |
| _                                   | <ul> <li>Dumping activities;</li> </ul>                           |  |
|                                     | Sheet pile driving;   |  |
|                                     | <ul> <li>Tree protection and tree transplanting works;</li> </ul> |  |
|                                     | <ul> <li>Utilities companies liaison;</li> </ul>                  |  |
|                                     | <ul> <li>Carrying out joined survey;</li> </ul>                   |  |
|                                     | Gabion Installation; and  |  |
|                                     | Marine dumping of Type 1 material                                 |  |
| 26 October 2008 – 25 November 2008  | • Construction and excavation works;                              |  |
|                                     | <ul> <li>Dumping activities;</li> </ul>                           |  |
|                                     | Sheet pile driving;   |  |
| 26 November – 25 December 2008      | <ul> <li>Tree protection and tree transplanting works;</li> </ul> |  |
| 20 November 23 December 2000        | <ul> <li>Utilities companies liaison;</li> </ul>                  |  |
|                                     | <ul> <li>Carrying out joined survey; and</li> </ul>               |  |
|                                     | Gabion Installation   |  |

#### SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.03 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this reporting 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 09 July 2007  |
| H     | Chemical Waste Producer Registration WPN:5296-519-C3430-01 (Portion 8, Ma Fung Ling Road, Tong Yan San Tsuen, Yuen Long) |                               |
| II .  | Chemical Waste Producer Registration WPN:5113-533-C3434-09 (Kam Tsin Wai, Kam Tin, Yuen Long)                            |                               |
| 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)<br>License No.: 1U450/1  | Obtained on 20 July 2007      |
| 7     | Billing Account for Disposal of Construction Waste (Account Number : $7005311$ )   | Valid on 07 May 2007          |
| 8     | Type 1 (Open Sea Disposal) Marine Dumping Permit (EP/MD/09-027)  | 13 Oct 2008 – 12 Apr 2009     |



#### 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<br>Aspect | Monitoring Parameters               |  | Monitoring<br>Stations |
|-------------------------|-------------------------------------|--|------------------------|
| Air Quality             | 1-Hour and 24-Hour TS               | SP   | A10                    |
| Construction Noise      | Leq <sub>(30min)</sub> during norma | l working hours  | N10a*                  |
|                         | Supplementary data of               | $L_{10}$ and $L_{90}$ for reference.                       |                        |
| Stream Water Quality    | In Situ Measurement                 | <ul> <li>Dissolved Oxygen Concentration (mg/L);</li> </ul> | W9A & W9B              |
|                         |                                     | <ul> <li>Dissolved Oxygen Saturation (% Sat);</li> </ul>   |                        |
|                         |                                     | Turbidity (NTU);   |                        |
|                         |                                     | • pH;  |                        |
|                         |                                     | <ul> <li>Salinity (%); Water Depth (m) and</li> </ul>      |                        |
|                         |                                     | • Temperature (°C).  |                        |
|                         | Laboratory Analysis                 | <ul> <li>Suspended Solids (mg/L);</li> </ul>               |                        |
|                         |                                     | Ammonia Nitrogen (mg/L); and                               |                        |
|                         |                                     | <ul> <li>Zinc (μg/L).</li> </ul>                           |                        |
| Ecology                 | <ul> <li>Monthly monitor</li> </ul> | ring of construction activities adjacent to the            |                        |
|                         |                                     | identify any intrusions of construction activities         |                        |
|                         | into the wetland a                  | ,  |                        |
|                         | •                                   | ring of wetland areas themselves to check that             |                        |
|                         | there is no adver                   |  |                        |
|                         | changes to the w                    |  |                        |
|                         | any;                                |  |                        |
|                         | Photographic reco                   |  |                        |
|                         | Monthly surveys                     |  |                        |
|                         | season (April                       |  |                        |
|                         | dragonflies, and b                  | outterflies, 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 with supplementary  $L_{10}$  and  $L_{90}$  data will be 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) were measured in-situ, water depth, temperature and salinity will be collected for relevant data. Suspended Solids (SS), Ammonia Nitrogen and Zinc were determined in a HOKLAS accredited laboratory respectively.
- 3.06 Ecological monitoring is conducted in the seasonal wetland area as shown in Project profile of KT15 Figure ATT 4-7.2). Bird survey should be conducted in monthly and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are conducted in wet season (April to July inclusive).



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 (μg/m³) |             | Limit Level (μg/m³) |             |
|----------------------|----------------------|-------------|---------------------|-------------|
| Withitto ing Station | 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

| Action Level in dB(A)       | Limit Level in dB(A) |
|-----------------------------|----------------------|
| When one or more documented | >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) <sup>#</sup> | W9B (Downstream) |
|-------------------------|-----------------------------|------------------|
| Action Level            | NA                          | < 0.3            |
| Limit Level             | NA                          | < 0.2            |
| Turbidity (NTU)         | W9A (Upstream) <sup>#</sup> | W9B (Downstream) |
| Action Level            | NA                          | > 73.5*          |
| Limit Level             | NA                          | > 78.2**         |
| pН                      | W9A (Upstream) <sup>#</sup> | W9B (Downstream) |
| Action Level            | NA                          | > 7.0*           |
| Limit Level             | NA                          | > 7.1**          |
| Suspended Solids (mg/L) | W9A (Upstream) <sup>#</sup> | W9B (Downstream) |
| Action Level            | NA                          | > 148*           |
| Limit Level             | NA                          | > 159**          |
| Ammonia Nitrogen (mg/L) | W9A (Upstream) <sup>#</sup> | W9B (Downstream) |
| Action Level            | NA                          | > 30.91*         |
| Limit Level             | NA                          | > 32.20**        |
| Zinc (μg/L)             | W9A (Upstream) <sup>#</sup> | W9B (Downstream) |
| Action Level            | NA                          | > 242*           |
| Limit Level             | NA                          | > 252**          |

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

Table 3-5 Action and Limit Levels for Ecology Monitoring

| Parameters   | <b>Action Level</b>                 | Limit Level |  |
|--|-------------------------------------|-------------|--|
| Fauna: decrease in the total number of wetland dependent bird species or individuals of the wetland dependent bird species from baseline | 20 – 40% of individuals and species |             |  |

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

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



#### 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 Lo  | Construction Noise Location        |  |  |
| N10*                   | Village House in Tin Sam San Tsuen |  |  |
| N10a                   | Village House in Tin Sam San Tsuen |  |  |
| Water Quality Location | Water Quality Locations            |  |  |
| W9A <sup>#</sup>       | Tin Sam San Tsuen                  |  |  |
| W9B                    | Tin Sam San Tsuen                  |  |  |

\* 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

4.02 The meteorological data during the reporting 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. Total of 45 monitoring events were carried out in this reporting quarter.

#### 24-HOUR TSP MONITORING

4.04 The 24-Hour TSP monitoring was conducted at station A10 once every six days. Total of 16 monitoring events were carried out in this reporting quarter.

#### **NOISE MONITORING**

4.05 Impact noise monitoring was undertaken at one location N10a once per week. Total of 15 monitoring events were carried out in this reporting quarter.

#### STREAM WATER QUALITY MONITORING

4.06 The stream water quality monitoring was undertaken at two locations W9A & W9B two times per week and total 54 monitoring events were carried out.

#### **ECOLOGY MONITORING**

4.07 Bird survey should be conducted in monthly and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are conducted 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 21 October, 22 November and 25 December 2008.

<sup>#</sup> Act as control station in impact monitoring



# 5.0 IMPACT MONITORING IN THIS REPORTING QUARTER

5.01 The impact EM&A program was carried out by the ET in compliance with the project specific EM&A Manual in this reporting quarter. The impact monitoring schedules were presented in pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008). All the impact monitoring was undertaken in according to the monitoring schedule. Details of the monitoring results are present in the pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008).

#### **AIR QUALITY**

- 5.02 No 1-Hour/24-Hour TSP Action or Limit Level exceedance was recorded in this reporting quarter. Details of the impact air quality monitoring data were present in the pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008). Graphical plots of the 1-Hour and 24-Hour TSP monitoring results are shown in Appendix D.
- 5.03 The meteorological data of this reporting quarter are summarized in **Appendix E**.

#### **CONSTRUCTION NOISE**

5.04 No construction noise exceedance (Action/Limit Level) was recorded in this reporting quarter. Details of the impact noise monitoring data were present in the pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008). Graphical plots of the monitoring data are presented in Appendix D.

#### **STREAM WATER QUALITY**

- 5.05 Two SS exceed the Limit Level at W9B were recorded on 02 and 15 October 2008. From the monitoring team on-site observations and the Contractor's information, no excavation or major discharge on-site was observed on-site (02 and 15 October 2008). Desilting facilities and proper mitigation measures were implemented on-site. Silty water from Kam Tin Nullah upstream was observed during the sampling (02 and 15 October 2008). The exceedances on 02 and 15 October 2008 were not project related.
- 5.06 One Limit Level exceedance of Turbidity and SS at W9B was recorded on 03 December 2008. Additional water sample at the Kam Tin River upstream was collected and relevant high results of Turbidity (390NTU) and SS (449mg/L) also obtained. Therefore, the exceedance on 03 December 2008 was considered not project related.
- 5.07 Details of the monitoring results were present in the pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008) and graphical plots for each parameter are presented in Appendix D.



#### **ECOLOGY**

5.08 Exceedances in ecology were recorded in this reporting quarter. Details of the monitoring results were presented in the pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008) and a summary of the exceedence is presented in Table 5-1. From the EM&A Manual Section 7.5.1(b), fauna survey is required during wet season (i.e. April to July) and thus no fauna undertaken in this reporting period.

**Table 5-1 Summary of Exceedances in Ecology Impact Monitoring** 

| Month         | Taxa | Parameters     | Action Level | Limit Level | Exceedance  |
|---------------|------|----------------|--------------|-------------|-------------|
| October 2008  | Bird | Species no.    | -            | Breach      | Limit Level |
|               |      | Individual no. | -            | -           | -           |
| November 2008 | Bird | Species no.    | -            | Breach      | Limit Level |
|               |      | Individual no. | -            | Breach      | Limit Level |
| December 2008 | Bird | Species no.    | -            | Breach      | Limit Level |
|               |      | Individual no. | -            | Breach      | Limit Level |

5.09 Photographic records are scheduled in six-month intervals, and thus are required in the December 2008 monitoring. The photographic records can refer to the Monthly EM&A Report for December 2008.



#### 6.0 WASTE MANAGEMENT

6.01 The waste management was implemented by on-site Environmental Officer or Environmental Supervisor from time to time.

# 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 reporting 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 reporting quarter are summarized in **Table 6-3**.

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

| Type of Waste                                      | October 2008 | November 2008 | December 2008 |
|--|--------------|---------------|---------------|
| Broken Concrete (Inert) (m <sup>3</sup> )          | 0            | 0             | 0             |
| Reused in this Contract (Inert) (m <sup>3</sup> )  | 0            | 0             | 0             |
| Reused in other Projects (Inert) (m <sup>3</sup> ) | 0            | 0             | 0             |
| Disposal as Public Fill (Inert) (m <sup>3</sup> )  | 0            | 0             | 0             |

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

| Type of Waste                         | October 2008 | November 2008 | December 2008 |
|---------------------------------------|--------------|---------------|---------------|
| Recycled Metal (kg)                   | 0            | 0             | 0             |
| Recycled Paper/Cardboard Packing (kg) | 0            | 0             | 0             |
| Recycled Plastic (kg)                 | 0            | 0             | 0             |
| Chemical Wastes (kg)                  | 0            | 0             | 0             |
| General Refuses (kg)                  | 14           | 14            | 0             |

Table 6-3 Summary of Excavated Soil for Marine Disposal

| Type of Waste                      | October 2008 | November 2008 | December 2008 |
|------------------------------------|--------------|---------------|---------------|
| Type 1 Materials (m <sup>3</sup> ) | 23           | 0             | Completed     |
| Type 2 Materials (m <sup>3</sup> ) | 0            | 0             | 0             |



#### 7.0 SITE INSPECTION

7.01 According to the EM&A Manual Section 9.1.2, the environmental site inspection should been formulation by ET Leader. Date of ET's weekly environmental site inspection and IEC monthly site audit were summaries in the **Table 7-1**.

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

| Date of Inspection/Audit | Involved Parties    |
|--------------------------|---------------------|
| 02 October 2008          | ER, CCC and ET      |
| 10 October 2008          | ER, CCC and ET      |
| 15 October 2008*         | ER, IEC, CCC and ET |
| 23 October 2008          | ER, CCC and ET      |
| 30 October 2008          | ER, CCC and ET      |
| 05 November 2008         | ER, CCC and ET      |
| 12 November 2008*        | ER, IEC, CCC and ET |
| 21 November 2008         | ER, CCC and ET      |
| 27 November 2008         | ER, CCC and ET      |
| 04 December 2008         | ER, CCC and ET      |
| 10 December 2008         | ER, CCC and ET      |
| 15 December 2008*        | ER, IEC, CCC and ET |
| 24 December 2008         | ER, CCC and ET      |

Note: \*Monthly IEC site audit.

7.02 During the weekly site inspection or monthly auditing, there have no non-compliance was found, however **five** observations were recorded in this reporting quarter. The weekly ET site inspection and monthly IEC site audit checklists were present in the pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008).



# 8.0 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

#### ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.01 No environmental complaint, summons and prosecution was received in this reporting 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 |            |                  |  |
|--------------------------------|-------------------------------------|------------|------------------|--|
| Reporting 1 eriou              | Frequency                           | Cumulative | Complaint Nature |  |
| 26 September – 25 October 2008 | 0                                   | 0          | NA               |  |
| 26 October – 25 November 2008  | 0                                   | 0          | NA               |  |
| 26 November – 25 December 2008 | 0                                   | 0          | NA               |  |

**Table 8-2** Statistical Summary of Environmental Summons

| Reporting Period               | <b>Environmental Summons Statistics</b> |            |        |  |
|--------------------------------|---|------------|--------|--|
| Reporting 1 eriou              | Frequency                               | Cumulative | Nature |  |
| 26 September – 25 October 2008 | 0                                       | 0          | NA     |  |
| 26 October – 25 November 2008  | 0                                       | 0          | NA     |  |
| 26 November – 25 December 2008 | 0                                       | 0          | NA     |  |

**Table 8-3** Statistical Summary of Environmental Prosecution

| Reporting Period               | <b>Environmental Prosecution Statistics</b> |            |        |  |
|--------------------------------|---|------------|--------|--|
| Kepol ting 1 eriou             | Frequency                                   | Cumulative | Nature |  |
| 26 September – 25 October 2008 | 0   | 0          | NA     |  |
| 26 October – 25 November 2008  | 0   | 0          | NA     |  |
| 26 November – 25 December 2008 | 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 reporting 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 cleaned of mud and debris before leaving the site;
- Site vehicles were limited to within 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.

#### <u>Noise</u>

- Works and equipment were located to minimise noise nuisance from the nearest sensitive receiver;
- Idle equipments were either turned off or throttled down;
- Some of the 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.



#### 10.0 CONCLUSION

10.01 The EM&A program in this reporting quarter (October – December 2008) were undertaken in compliance with the EM&A Manual for KT15. A summary of environmental compliance of air, noise, stream water quality and ecology in this reporting quarter are presented in Table 10-1.

**Table 10-1** Summary of the Exceedances for Impact Monitoring

| Env. Quality | Parameters  | Work-Related<br>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 | DO in mg/L  | 0                            | Not Required for 0% Exceedance     |
|              | SS in mg/L  | 0                            | Not Required for 0% Exceedance     |
|              | Turbidity (NTU)   | 0                            | Not Required for 0% Exceedance     |
|              | pН  | 0                            | Not Required for 0% Exceedance     |
|              | Ammonia Nitrogen (mg/L)   | 0                            | Not Required for 0% Exceedance     |
|              | Zinc (µg/L)   | 0                            | Not Required for 0% Exceedance     |
| Ecology      | Decrease in the total number of<br>wetland dependent species or<br>individuals of the surveyed<br>faunal groups from baseline | 0                            | Not Required for 0% Exceedance     |
|              | Decrease in the total number<br>of species or individuals of<br>wetland faunal from baseline                                  | 0                            | Not Required for 0% Exceedance     |

- 10.02 No 1-Hour and 24-Hour TSP exceeded the Action/Limit Level was recorded in this reporting quarter.
- 10.03 All measured daytime construction noise levels were below the Limit Level and no complaint was received in this reporting quarter.
- 10.04 Two SS exceed the Limit Level at W9B were recorded on 02 and 15 October 2008. From the monitoring team on-site observations and the Contractor information, no excavation or major discharge on-site was observed on-site (02 and 15 October 2008). Desilting facilities and proper mitigation measures were implemented on-site. Silty water from Kam Tin Nullah upstream was observed during the sampling (02 and 15 October 2008). The exceedances on 02 and 15 October 2008 were not project related.
- 10.05 One Limit Level exceedance of Turbidity and SS at W9B was recorded on 03 December 2008. Additional water sample at the Kam Tin River upstream was collected and relevant high results of Turbidity (390NTU) and SS (449mg/L) also obtained. Therefore, the exceedance on 03 December 2008 was considered not project related.
- 10.06 Non-compliance with the ecological criteria was found during the reporting quarter (21 October, 22 November and 25 December 2008). No intrusions of construction activities into the wetland areas nor adverse impact was observed. Based on the findings in the pervious monthly monitoring, the non-compliance in wetland dependent bird and fauna was not caused by the project.
- 10.07 Photographic records are scheduled in six-month intervals, and thus are required in the December 2008 monitoring. The photographic records can refer to the Monthly EM&A Report for December 2008.



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

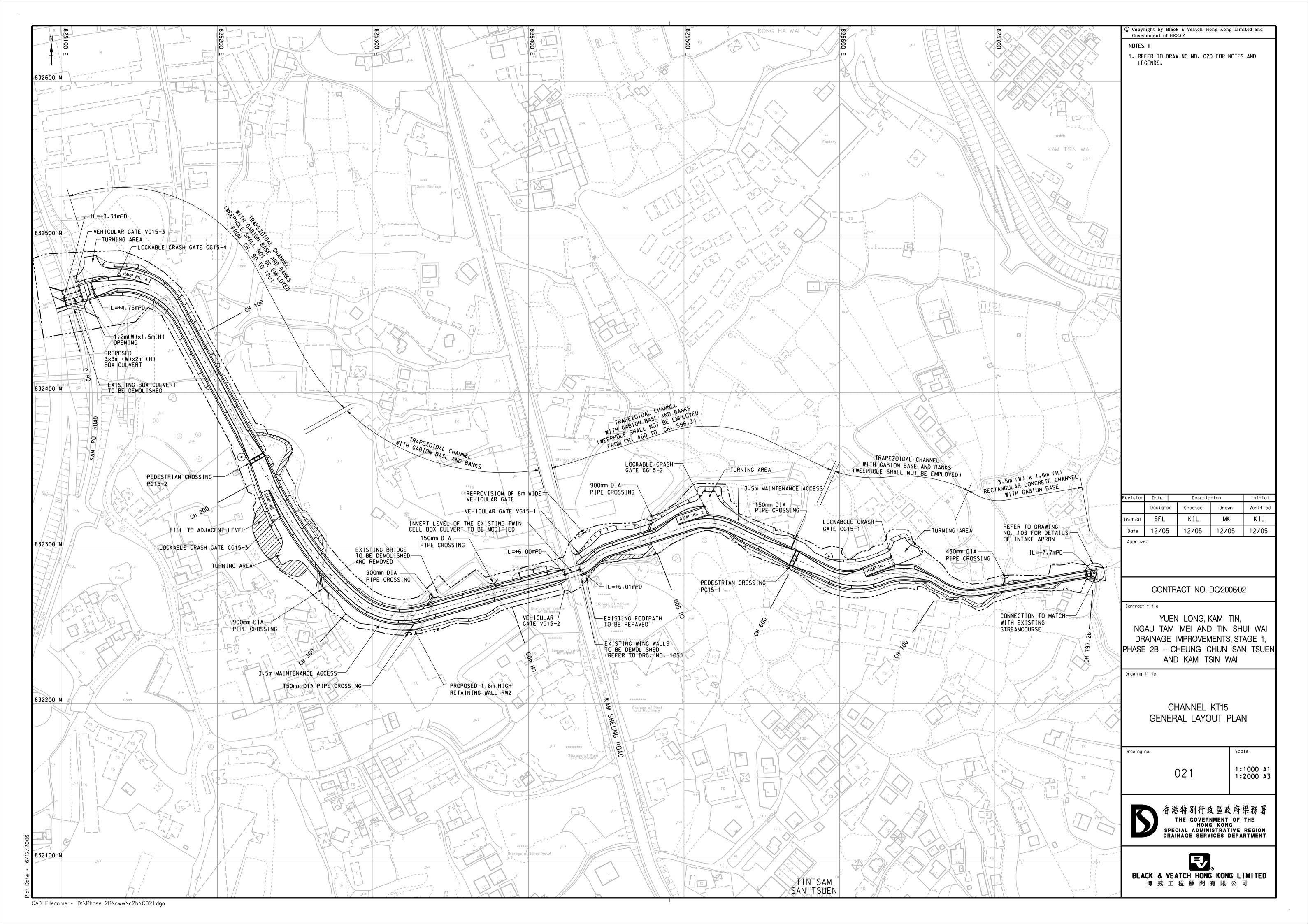
#### RECOMMENDATIONS

- 10.09 Based on the weekly ET site inspection and monthly IEC site audit, no non-compliance and **five** observations were recorded in this reporting quarter (October 2008 December 2008). Details of the observations were present in the pervious Monthly EM&A Reports (October 2008, November 2008 and December 2008). In general, the environmental performance of proposed channel KT15 was accepted.
- 10.10 The ET will continue to implement the EM&A program and audit the effective mitigation measures implement by the Contractor.



# APPENDIX A

PROJECT SITE LAYOUT



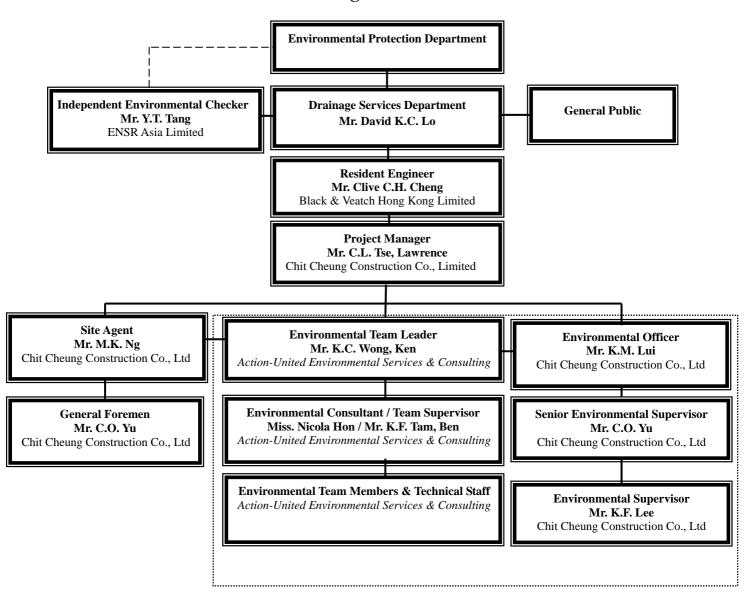


# APPENDIX B

**ENVIRONMENTAL ORGANIZATION STRUCTURE** 



# **Environmental Organization Structure**



Contractor's Environmental Team (CET)



# **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 |
| ENSR         | 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. Lawrence TSE     | 9752-0748 | 2479-1365 |
| CCC          | Site Agent                        | Mr. M.K. NG          | 6603-9711 | 2479-1365 |
| CCC          | Site Engineer                     | Mr. Jimmy CHAN       | 9234-8632 | 2479-1365 |
| CCC          | Environmental Officer             | Mr. LUI Kam Man      | 9257-9111 | 2479-1365 |
| CCC          | Senior Environmental Supervisor   | Mr. YU Chor-on       | 9026-9501 | 2479-1365 |
| CCC          | Environmental Supervisor          | Ho Kam Wing          | 9016-0592 | 2479-1365 |
| CCC          | Safety Officer                    | Mr. SHEA Yan Keung   | 6086-4658 | 2479-1365 |
| AUES         | Environmental Team Leader         | Ken Wong             | 2959-6059 | 2959-6079 |
| AUES         | Environmental Team Supervisor     | Ben Tam              | 2959-6059 | 2959-6079 |
| AUES         | Environmental Consultant          | Nicola Hon           | 2959-6059 | 2959-6079 |
| AUES         | Ecologist                         | Vincent Lai          | 9406-9784 | 2959-6079 |
| AUES         | Decontamination Specialist        | FN Wong              | 2959-6059 | 2959-6079 |

Legend:
DSD (Employer)
B&V (Engineer) Drainage Services Department Black & Veatch Hong Kong Limited
Chit Cheung Construction Company Limited. CCC (Contractor) ENSR (IEC)

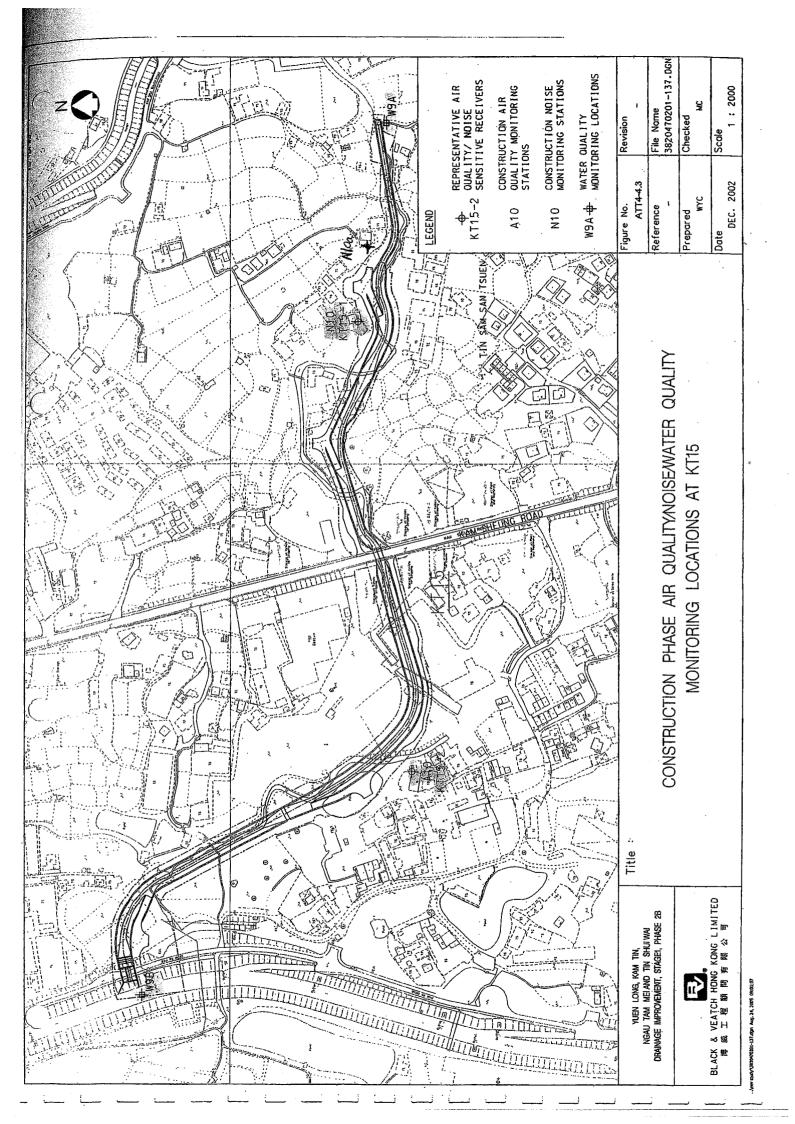
ENSR Asia (HK) Ltd.

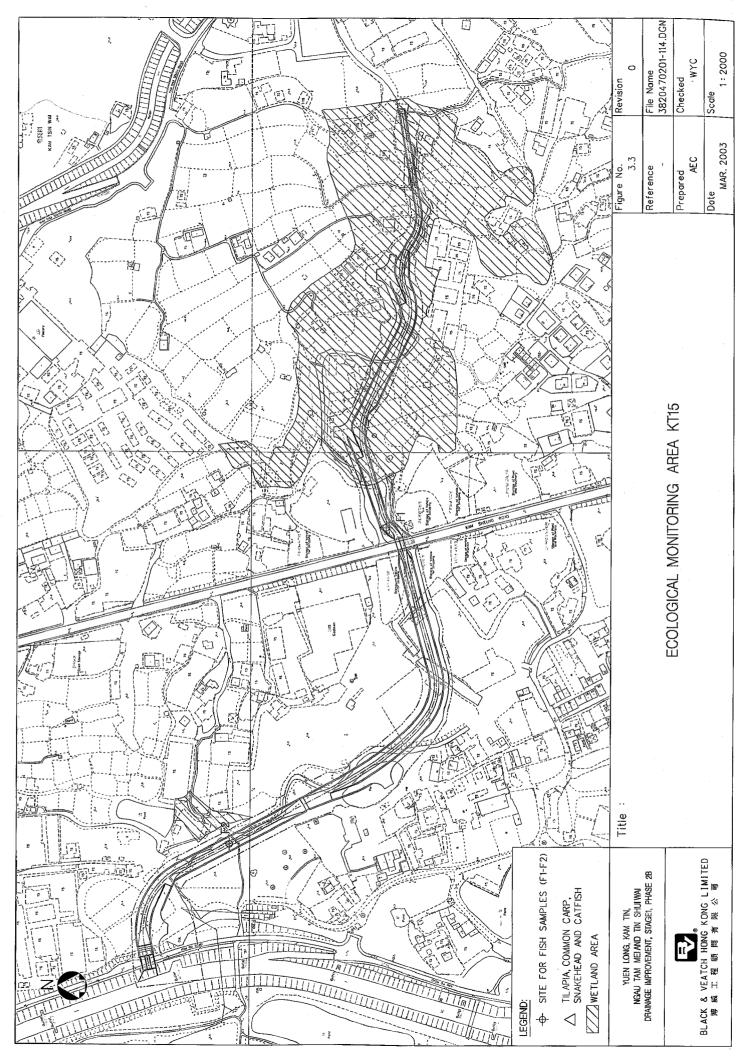
AUES (ET) Action-United Environmental Services & Consulting



# APPENDIX C

# LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA





..\env study3820470201-114.dgn Aug. 24, 2005 09:03:49

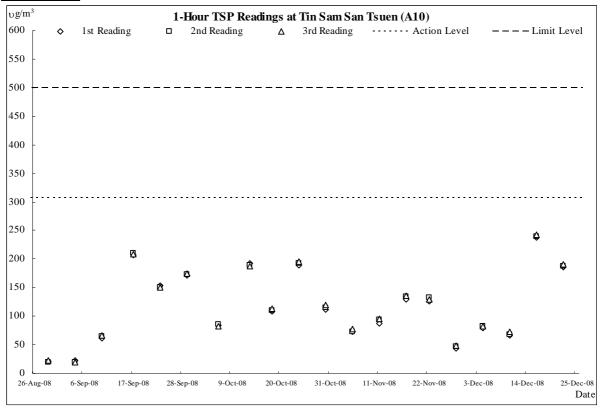


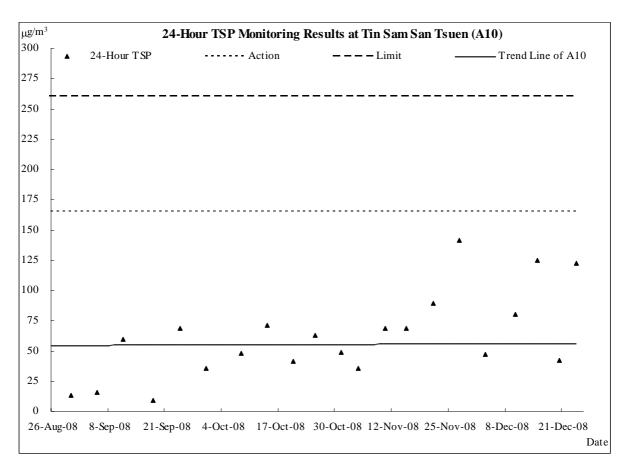
# APPENDIX D

# GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE & STREAM WATER QUALITY MONITORING



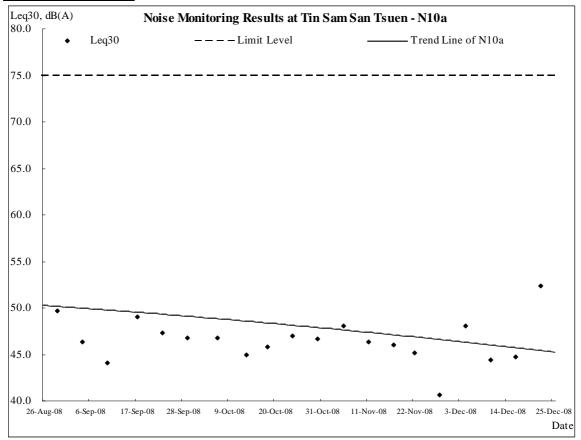
#### **Air Quality**





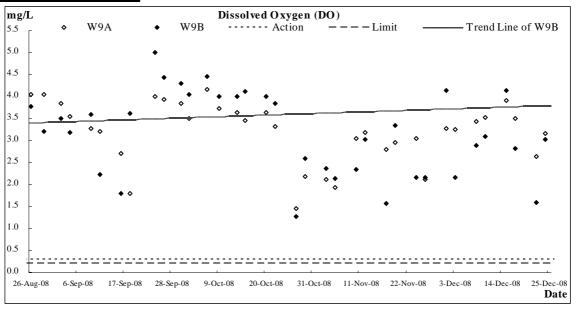


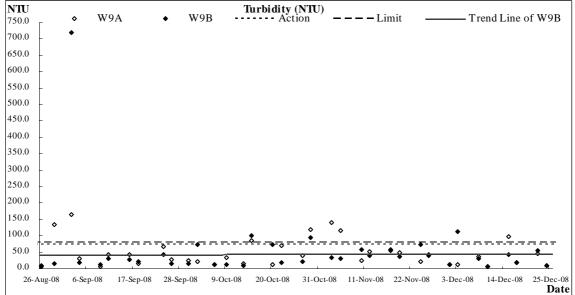
# **Construction Noise**

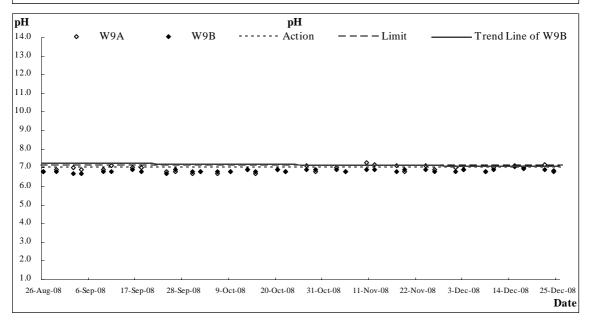




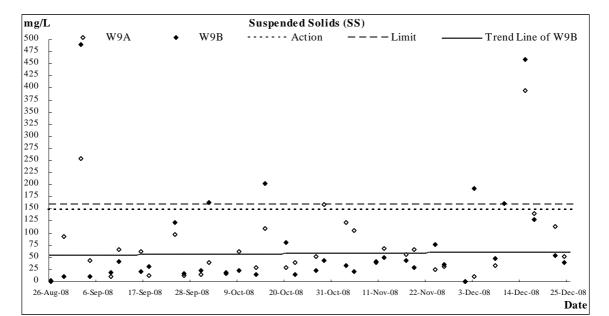
#### **Stream Water Quality**

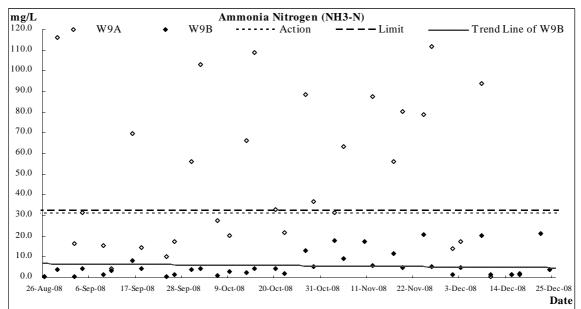


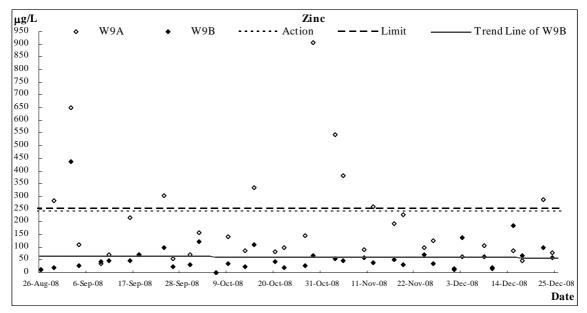












Note: Monitoring on 23 September 2008 was cancelled due to Tropical Cyclone, Heavy Rainfall and Thunderstorm Signal Warning.



# APPENDIX E

METEOROLOGICAL DATA IN THE REPORTING QUARTER



# Meteorological Data Extracted from HKO in the Reporting Quarter

| Date      |     | Weather  | Lau Fau Shan Weather Station |                                 |                         |                                     |                   |
|-----------|-----|--|------------------------------|---------------------------------|-------------------------|-------------------------------------|-------------------|
|           |     |  | Total<br>Rainfall<br>(mm)    | Mean Air<br>Temperature<br>(°C) | Wind<br>Speed<br>(km/h) | Mean<br>Relative<br>Humidity<br>(%) | Wind<br>Direction |
| 26-Sep-08 | Fri | sunny periods/moderate                                       | 0.1                          | 29.4                            | 12.5                    | 77.5                                | Е                 |
| 27-Sep-08 | Sat | sunny periods/cloudy/a few<br>showers/moderate/fresh         | Trace                        | 27.5                            | 12                      | 73.5                                | E/NE              |
| 28-Sep-08 | Sun | sunny periods/cloudy/a few<br>showers/moderate/fresh         | 2.3                          | 27.2                            | 19.5                    | 63                                  | N/NE              |
| 29-Sep-08 | Mon | fine/dry/moderate/fresh                                      | 2                            | 26.9                            | 17                      | 62.5                                | N/NE              |
| 30-Sep-08 | Tue | fine/dry/moderate  | 0                            | 27.3                            | 16                      | 60                                  | E/NE              |
| 1-Oct-08  | Wed | Holiday  |                              |                                 |                         |                                     |                   |
| 2-Oct-08  | Thu | sunny periods/moderate                                       | 3                            | 27.9                            | 9                       | 68                                  | E/NE              |
| 3-Oct-08  | Fri | cloudy/overcast/rain/moderate/fresh/strong                   | 2.4                          | 27.6                            | 17                      | 70                                  | Е                 |
| 4-Oct-08  | Sat | cloudy/scattered showers/squally thunderstorm/moderate/fresh | 14                           | 28.1                            | 17                      | 78                                  | Е                 |
| 5-Oct-08  | Sun | cloudy/moderate/fresh  | 122.6                        | 25                              | 29.5                    | 88.5                                | S/SE              |
| 6-Oct-08  | Mon | cloudy/moderate/fresh  | Trace                        | 24                              | 27.5                    | 80.5                                | N/NW              |
| 7-Oct-08  | Tue | Holiday  |                              |                                 |                         |                                     |                   |
| 8-Oct-08  | Wed | cloudy/sunny periods/moderate/fresh                          | 0.5                          | 25                              | 12                      | 77                                  | E/NE              |
| 9-Oct-08  | Thu | sunny periods/cloudy/moderate/fresh                          | Trace                        | 27.7                            | 14                      | 72                                  | E                 |
| 10-Oct-08 | Fri | fine/dry/moderate  | 0                            | 28.3                            | 10                      | 70                                  | E/SE              |
| 11-Oct-08 | Sat | fine/dry/moderate/fresh                                      | 0                            | 28.2                            | 13.5                    | 68.5                                | E/NE              |
| 12-Oct-08 | Sun | cloudy/rain/fresh/strong                                     | Trace                        | 26.6                            | 12                      | 73                                  | E/NE              |
| 13-Oct-08 | Mon | cloudy/rain/fresh/strong                                     | 0.3                          | 24.5                            | 11                      | 83                                  | E/NE              |
| 14-Oct-08 | Tue | cloudy/haze/sunny periods/moderate/fresh                     | Trace                        | 25.6                            | 13.5                    | 75.5                                | E/NE              |
| 15-Oct-08 | Wed | fine/dry/moderate/fresh                                      | Trace                        | 26.9                            | 9                       | 71                                  | Е                 |
| 16-Oct-08 | Thu | fine/hazy/cloudy/moderate                                    | 0                            | 27.4                            | 12                      | 71                                  | E/SE              |
| 17-Oct-08 | Fri | cloudy/rain/moderate/fresh                                   | 0.1                          | 26.8                            | 11.7                    | 69.5                                | E/SE              |
| 18-Oct-08 | Sat | sunny periods/cloudy/moderate/fresh                          | 0                            | 28.5                            | 10.7                    | 71.5                                | E/SE              |
| 19-Oct-08 | Sun | fine/dry/moderate/fresh                                      | 1.6                          | 28.6                            | 9.5                     | 66.2                                | E/SE              |
| 20-Oct-08 | Mon | fine/dry/moderate/fresh                                      | Trace                        | 28.3                            | 14.5                    | 66.5                                | E/SE              |
| 21-Oct-08 | Tue | fine/moderate  | 0                            | 27.4                            | 13.5                    | 66.5                                | Е                 |
| 22-Oct-08 | Wed | fine/moderate  | 0                            | 27                              | 9                       | 74                                  | E/SE              |
| 23-Oct-08 | Thu | fine/hot/haze/light winds                                    | 0                            | 26.7                            | 10.5                    | 76.2                                | S/SE              |
| 24-Oct-08 | Fri | cloudy/sunny intervals/moderate/fresh                        | 0                            | 28                              | 11.5                    | 68                                  | E/NE              |
| 25-Oct-08 | Sat | cloudy/sunny intervals/moderate/fresh                        | Trace                        | 27.6                            | 15.5                    | 68                                  | Е                 |



|           |     |  | Lau Fau Shan Weather Station |                                 |                         |                                     |                   |
|-----------|-----|--|------------------------------|---------------------------------|-------------------------|-------------------------------------|-------------------|
| Date      |     | Weather                                    | Total<br>Rainfall<br>(mm)    | Mean Air<br>Temperature<br>(°C) | Wind<br>Speed<br>(km/h) | Mean<br>Relative<br>Humidity<br>(%) | Wind<br>Direction |
| 26-Oct-08 | Sun | cloudy/sunny intervals/moderate/fresh      | 0                            | 27.4                            | 11.7                    | 70.5                                | E/SE              |
| 27-Oct-08 | Mon | fine/haze/moderate                         | Trace                        | 27.3                            | 10.5                    | 74.3                                | E/NE              |
| 28-Oct-08 | Tue | fine/cloudy/rain/moderate/fresh            | 0.1                          | 26                              | 9.7                     | 73.5                                | Е                 |
| 29-Oct-08 | Wed | sunny intervals/cloudy/moderate            | 0                            | 27.5                            | 10.2                    | 6.9                                 | E/SE              |
| 30-Oct-08 | Thu | fine/moderate/fresh/rain                   | 0                            | 28                              | 9                       | 71.5                                | E/SE              |
| 31-Oct-08 | Fri | sunny intervals/cloudy/moderate/fresh      | 0                            | 28.5                            | 12.5                    | 71.7                                | Е                 |
| 1-Nov-08  | Sat | cloudy/sunny intervals/rain/moderate/fresh | 0.2                          | 27.1                            | 15.5                    | 70.7                                | Е                 |
| 2-Nov-08  | Sun | cloudy/rain/moderate/fresh                 | 2.6                          | 27.7                            | 13.5                    | 77                                  | E/SE              |
| 3-Nov-08  | Mon | cloudy/rain/thunderstorm/moderate/fresh    | 51.2                         | 23.7                            | 12                      | 91                                  | E/NE              |
| 4-Nov-08  | Tue | cloudy/rain/moderate/fresh                 | Trace                        | 25.1                            | 17                      | 81                                  | E/NE              |
| 5-Nov-08  | Wed | cloudy/sunny intervals/rain/moderate/fresh | 0.3                          | 26.6                            | 15                      | 76                                  | E/NE              |
| 6-Nov-08  | Thu | sunny periods/cloudy/moderate              | 0                            | 27.6                            | 11                      | 75.5                                | Е                 |
| 7-Nov-08  | Fri | fine/cloudy/rain/moderate                  | Trace                        | 27.9                            | 9                       | 76.5                                | E/SE              |
| 8-Nov-08  | Sat | cloudy/rain/fresh/strong                   | Trace                        | 27.5                            | 16.5                    | 78                                  | N/NW              |
| 9-Nov-08  | Sun | fine/very dry/fresh/strong                 | Trace                        | Maintenance                     | 27.5                    | Maintenance                         | N/NE              |
| 10-Nov-08 | Mon | fine/very dry/fresh/strong                 | 0                            | 19.5                            | 26                      | Maintenance                         | N/NE              |
| 11-Nov-08 | Tue | fine/very dry/moderate/fresh               | 0                            | 18.9                            | 20.5                    | 45                                  | NE                |
| 12-Nov-08 | Wed | fine/very dry/moderate                     | 0                            | 19.6                            | 15                      | 42                                  | E/NE              |
| 13-Nov-08 | Thu | fine/dry/moderate                          | Trace                        | 21.5                            | 11                      | 45                                  | Е                 |
| 14-Nov-08 | Fri | fine/dry/moderate                          | Trace                        | 23.7                            | 9.2                     | 61.5                                | E/NE              |
| 15-Nov-08 | Sat | fine/moderate                              | 0                            | 24.1                            | 7.2                     | 66                                  | E/NE              |
| 16-Nov-08 | Sun | fine/moderate                              | 0                            | 25.8                            | 13.2                    | 54                                  | E/SE              |
| 17-Nov-08 | Mon | fine/moderate                              | 0                            | 24.8                            | 12                      | 68.5                                | E/SE              |
| 18-Nov-08 | Tue | fine/dry/haze/cloudy/fresh/strong          | 0                            | 21.2                            | 14.5                    | 64                                  | E/NE              |
| 19-Nov-08 | Wed | fine/dry/cool/moderate/fresh               | 0                            | 18.7                            | 21.5                    | 47                                  | NE                |
| 20-Nov-08 | Thu | fine/dry/cool/moderate/fresh               | 0                            | 16.9                            | 12.7                    | 42.5                                | E/NE              |
| 21-Nov-08 | Fri | fine/dry/moderate/fresh                    | 0                            | 18.7                            | 8.2                     | 52.5                                | E/NE              |
| 22-Nov-08 | Sat | sunny periods/dry/cloudy/moderate          | 0                            | 20.6                            | 8.5                     | 59                                  | E/NE              |
| 23-Nov-08 | Sun | fine/moderate/fresh                        | Trace                        | 22.9                            | 10                      | 96.5                                | W/SW              |
| 24-Nov-08 | Mon | fine/dry/moderate/fresh                    | 0                            | 22.6                            | 15                      | 95.5                                | N/NE              |
| 25-Nov-08 | Tue | fine/dry/moderate                          | 0                            | 21.7                            | 15                      | 50                                  | E/NE              |



|           |     |  |                           | Lau Fau Shan Weather Station |                         |                                     |                   |
|-----------|-----|--|---------------------------|------------------------------|-------------------------|-------------------------------------|-------------------|
| Date      |     | Weather                                      | Total<br>Rainfall<br>(mm) | Mean Air                     | Wind<br>Speed<br>(km/h) | Mean<br>Relative<br>Humidity<br>(%) | Wind<br>Direction |
| 26-Nov-08 | Wed | fine/dry/moderate                            | 0                         | 20.8                         | 11.2                    | 57.5                                | E/NE              |
| 27-Nov-08 | Thu | fine/very dry/cool/fresh/strong              | 0                         | 18.3                         | 22.7                    | 44.5                                | N/NE              |
| 28-Nov-08 | Fri | fine/very dry/moderate/fresh                 | 0                         | 15.2                         | 33.5                    | 27.2                                | NE                |
| 29-Nov-08 | Sat | fine/very dry/cool/moderate                  | 0                         | 17.1                         | 12                      | 30                                  | E/NE              |
| 30-Nov-08 | Sun | fine/dry/moderate                            | 0                         | 16.9                         | 9.2                     | 38                                  | N                 |
| 1-Dec-08  | Mo  | fine/dry/moderate                            | 0                         | 17.3                         | 8.5                     | 57.2                                | E/SE              |
| 2-Dec-08  | Tue | fine/dry/light winds/moderate                | 0                         | 17.4                         | 8.5                     | 49.5                                | E/SE              |
| 3-Dec-08  | Wed | sunny intervals/cloudy/moderate/fresh        | Trace                     | 19.9                         | 11.5                    | 58.5                                | E/NE              |
| 4-Dec-08  | Thu | sunny intervals/moderate/rain/cool           | 0.2                       | 23.9                         | 11                      | 59                                  | Е                 |
| 5-Dec-08  | Fri | fine/very dry/cool/moderate/fresh            | Trace                     | 18.2                         | 22                      | 52                                  | NE                |
| 6-Dec-08  | Sat | fine/very dry/moderate/fresh                 | 0                         | 15.4                         | 14.5                    | 33.5                                | NE                |
| 7-Dec-08  | Sun | sunny periods/dry/moderate                   | 0.4                       | 15.6                         | 8.7                     | 35.2                                | E/SE              |
| 8-Dec-08  | Mo  | sunny periods/very dry/moderate              | Trace                     | 18.1                         | 16                      | 38.7                                | N/NE              |
| 9-Dec-08  | Tue | fine/very dry/moderate                       | 0                         | 16.8                         | 13                      | 36                                  | E/SE              |
| 10-Dec-08 | Wed | fine/very dry/moderate                       | 0                         | 19.5                         | 11                      | 54                                  | E/SE              |
| 11-Dec-08 | Thu | fine/very dry/haze/moderate                  | 0                         | 18.6                         | 8.5                     | 44                                  | E/SE              |
| 12-Dec-08 | Fri | dry/sunny<br>intervals/cloudy/moderate/fresh | 0                         | 22.3                         | 10                      | 54.5                                | Е                 |
| 13-Dec-08 | Sat | sunny periods/dry/fine/moderate/fresh        | 0                         | 21.4                         | 10                      | 63                                  | E/NE              |
| 14-Dec-08 | Sun | fine/dry/hazy/moderate                       | 0                         | 18.7                         | 4                       | 12                                  | E/NE              |
| 15-Dec-08 | Mo  | fine/dry/hazy/moderate                       | 0                         | 15.4                         | 14.5                    | Maintenance                         | E/NE              |
| 16-Dec-08 | Tue | fine/dry/hazy/moderate                       | 0                         | 16.1                         | 9                       | 62                                  | Е                 |
| 17-Dec-08 | Wed | fine/dry/haze/moderate                       | 0                         | 17.2                         | 7.2                     | 58                                  | E/SE              |
| 18-Dec-08 | Thu | fine/dry/haze/light winds/moderate           | 0                         | 17.4                         | 9.2                     | 53                                  | E/SE              |
| 19-Dec-08 | Fri | fine/dry/haze/moderate                       | 0                         | 21.2                         | 13.5                    | 51                                  | Е                 |
| 20-Dec-08 | Sat | fine/dry/haze/moderate                       | 0                         | 21.9                         | 9                       | 57.5                                | E/SE              |
| 21-Dec-08 | Sun | fine/dry/haze/moderate                       | 0                         | 21.8                         | 8.5                     | 56                                  | Е                 |
| 22-Dec-08 | Mo  | fine/dry/fresh/strong                        | Trace                     | 14.9                         | 19                      | 59.7                                | E/NE              |
| 23-Dec-08 | Tue | fine/dry/moderate                            | 0                         | 12.6                         | 19                      | 45                                  | NE                |
| 24-Dec-08 | Wed | cloudy/dry/sunny intervals/moderate          | 0                         | 17.3                         | 10.5                    | 49.7                                | N/NE              |
| 25-Dec-08 | Thu | Holiday                                      |                           |                              |                         |                                     |                   |



# APPENDIX G

**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 October 2008 – December 2008 (R1120 Revision 1) submit on 03 January 2009 Response to IEC's comments [Received from e-mail on 06 January 2009]

| Items | Section / Paragraph | Comments  | Response to Comments  |
|-------|---------------------|---|---|
| 1     | ES05.               | According to the Monthly EM&A report of October 2008 (TCS00371/07/600/R1004r3), the limit level exceedance should be recorded on "Number of species of wetland birds" rather than "Total number of wetland birds". Please check and revise accordingly. | Table in the ES05 had been revised.   |
| 2     | ES14., 5.05, 10.04  | The dates of on-site observations are missing in ES14. In order to keep consistency between related texts, it is suggested to use the same text as stated in Section 5.05/10.04 in ES14.  | ES14 had been amended.  |
| 3     | Table 2-2           | Type 2 (Confined Sea Disposal) Marine Dumping Permit's (EP/MD/09-040) effective date is out of the reporting period. It is advised to pick it out from the table.   | Noted.  |
| 4     | 6.03                | Please double check with the Contractor on the amount of waste generated on site during the reporting period.   | Amount of C&D materials, C&D wastes and Excavated soil present in the Table 6-1, 6-2 and 6-3 were extracted from the verify Monthly EM&A Reports (R1004 Revision 3, R1055 Revision 3 and R1101 Revision 2). |
| 5     | Table 6-3           | Please clarify the meaning of the word "completed" listed in the Table 6-3.   | Reference was made to the Contractor's e-mail on 31 December 2008. The excavation of Type 1 for disposal to East Sha Chau was completed.  |
| 6     | 10.06               | There is a typo on the date of ecological monitoring carried out in December 2008. The date of ecological monitoring should be on 25 December 2008. Please check and revise accordingly.  | Section 10.06 had been amended.   |
| 7     | Appendix D          | The graph of zinc monitoring results is not updated. Please revise and update the graph.  | Updated graphical plot of Zinc monitoring results had been present in the Appendix D.   |