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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 - MONTHLY EM&A REPORT FOR AUGUST 2009 (No. 26)

PREPARED FOR

CHIT CHEUNG CONSTRUCTION COMPANY LIMITED

Quality Index

Date	Reference No.	Prepared By	Certified By
11 September 2009	TCS00371/07/600/R1447v3	Nicola Hon	Andrew Lau

Environmental Consultant

Environmental Team Leader

Ver. No.	Date	Remarks	
1	8 September 2009	First Submission	
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3	11 September 2009	Amended against IEC's comment's on 11 Sep 2009	

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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* (the Project) on 3 April 2007. According to the contract specification requirements, an Environmental Monitoring & Audit (EM&A) program has to be implemented by an Environmental Team (ET) throughout the contract 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 an Environmental Permit (EP-231/2005/A).
- ES03. Action-United Environmental Services and Consulting (AUES) has been commissioned by CCC to be the ET to implement the EM&A program in accordance with the requirements as stated in the Environmental Permit and EM&A Manual for Secondary Channels KT14 & KT15 (August 2005). This Contract (DC/2006/02) covers KT15 only; and KT14 will be carried out under another contract.
- ES04. This Monthly EM&A Report for August 2009 (No. 26) presents the EM&A results for the period from 26 July to 25 August 2009 (the Reporting Period).

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES05. The monitored results of air quality, construction noise and water quality were in full compliance with the environmental quality criteria except for ecology as shown below.

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

COMPLAINTS LOG

ES06. No environmental complaint was received in this Reporting Period.

NOTIFICATIONS OF ANY SUMMONS AND SUCCESSFUL PROSECUTIONS

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

REPORTING CHANGES

ES08. There are no changes to be reported in this Reporting Period.

FUTURE KEY ISSUES

ES09. Construction activities to be undertaken in **September 2009** include backfilling of completed structure, road construction, gabion installation, excavation, tree protection and tree transplanting works, carrying out joined survey, utilities companies liaison, hydroseeding and



planting tree. 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 may arise from the construction works.

EM&A ACTIVITIES IN THE REPORTING PERIOD

ES10. A summary of the monitoring activities in this Reporting Period is listed below: -

•	1-hour TSP Monitoring	15	Events
•	24-hour TSP Monitoring	5	Events
•	Noise Monitoring	5	Events
•	Stream Water Quality	18	Events
•	Ecology	1	Event
•	Site Inspection Audit	5	Times

AIR QUALITY

ES11. No 1-hour and 24-hour TSP monitoring results that triggered the Action or Limit Level were recorded in this Reporting Period.

CONSTRUCTION NOISE

ES12. No construction noise complaint (an Action Level exceedance) was received and no construction noise monitoring result that exceeded the Limit Level was recorded in this Reporting Period.

STREAM WATER QUALITY

ES13. No stream water quality monitoring result that triggered the Action or Limit Level was recorded in this reporting period.

ECOLOGY

ES14. One individual from one wetland bird species with abundance from the baseline was observed during the survey on 21 August 2009, although a total of 39 individuals of birds from 15 species were recorded. The species number of wetland dependent bird recorded triggered the Limit Level. However, no intrusion of construction activities into the wetland areas and no discharge to the adjacent wetlands were found on 21 August 2009 during site audit. Investigation report revealed that the major construction works being carried out during the exceedance day were only erection of formwork and concreting. Those activities would not cause any disturbance to the adjacent wetlands. Therefore, it is concluded that the exceedance was not caused by work under the project.

SUMMARY OF MONITORING EXCEEDANCES

ES15. A summary of monitoring exceedances during the Reporting Period for air quality, construction noise, stream water quality and ecology are presented in the following table:-



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

Note: According to the Project Profile: Secondary Channels KT14 & KT15 Attachment 4 EM&A Manual Section 7.5.1 (b), fauna monitoring is only required to be undertaken in wet seasons (April to July) on a monthly basis.

SITE INSPECTION BY EXTERNAL PARTIES

ES16. No site visit or inspection was carried out by the Environmental Protection Department in this Reporting Period.

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 – Monthly EM&A Report for August 2009 (No. 26)



TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS	2
3.0	SUMMARY OF IMPACT MONITORING REQUIREMENTS	3
4.0	IMPACT MONITORING METHDOLOGY	5
5.0	IMPACT MONITORING RESULTS	11
6.0	WASTE MANAGEMENT	15
7.0	SITE INSPECTION	16
8.0	ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE	17
9.0	IMPLEMENTATION STATUS OF MITIGATION MEASURES	18
10.0	IMPACT FORECAST	19
11.0	CONCLUSION	20



LIST OF TABLES

TABLE 2-1	STATUS OF ENVIRONMENTAL LICENSE AND PERMITS
TABLE 3-1	SUMMARY OF EM&A REQUIREMENTS
TABLE 3-2	ACTION AND LIMIT LEVELS FOR AIR QUALITY MONITORING
TABLE 3-3	ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE MONITORING
TABLE 3-4	ACTION AND LIMIT LEVELS FOR STREAM WATER QUALITY MONITORING
TABLE 3-5	ACTION AND LIMIT LEVELS FOR CONSTRUCTION ECOLOGY MONITORING
TABLE 4-1	LOCATIONS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING STATION/LOCATIONS
TABLE 4-2	MONITORING EQUIPMENT USED IN EM&A PROGRAM
TABLE 4-3	ANALYTICAL METHOD APPLIED TO WATER QUALITY SAMPLES
TABLE 5-1	SUMMARY OF 1-HOUR TSP MONITORING RESULTS AT A10
TABLE 5-2	SUMMARY OF 24-HOUR TSP MONITORING RESULTS AT A10
TABLE 5-3	SUMMARY OF NOISE MONITORING RESULTS AT N10A
TABLE 5-4	SUMMARY OF STREAM WATER QUALITY RESULTS AT W9A & W9B
TABLE 5-5	SUMMARY OF KT15 ECOLOGY IMPACT MONITORING SURVEYS BIRD SURVEY
TABLE 6-1	SUMMARY OF QUANTITIES OF INERT C&D MATERIALS
TABLE 6-2	SUMMARY OF QUANTITIES OF C&D WASTES
TABLE 6-3	SUMMARY OF EXCAVATED SOIL FOR MARINE DISPOSAL
TABLE 7-1	SUMMARY OF FINDINGS OF SITE INSPECTION AND ENVIRONMENTAL AUDIT
TABLE 8-1	STATISTICAL SUMMARY OF ENVIRONMENTAL COMPLAINTS
TABLE 8-2	STATISTICAL SUMMARY OF ENVIRONMENTAL SUMMONS
TABLE 8-3	STATISTICAL SUMMARY OF ENVIRONMENTAL PROSECUTION
TABLE 11-1	SUMMARY OF THE EXCEEDANCES FOR IMPACT MONITORING

LIST OF APPENDICES

APPENDIX A	PROJECT SITE LAYOUT
APPENDIX B	THREE-MONTH CONSTRUCTION PROGRAM
APPENDIX C	ENVIRONMENTAL ORGANISATION STRUCTURE
APPENDIX D	LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA
APPENDIX E	EVENT/ACTION PLAN FOR AIR QUALITY, CONSTRUCTION NOISE, STREAM WATER QUALITY AND ECOLOGY
APPENDIX F	EQUIPMENT CALIBRATION CERTIFICATES
APPENDIX G	IMPACT MONITORING SCHEDULE
APPENDIX H	GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING RESULTS
APPENDIX I	METEOROLOGICAL DATA IN THE REPORTING PERIOD
APPENDIX J	ENVIRONMENTAL TEAM SITE INSPECTION CHECKLISTS
APPENDIX K	RESPONSE TO COMMENTS



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* (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 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 KT15. Location plan of the project site is presented in **Appendix A** and the construction program is presented in **Appendix B**.
- 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 to be the 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 presents the results of the project EM&A program for August 2009 during the period from 26 July to 25 August 2009 (the Reporting Period).

REPORT STRUCTURE

- 1.05 The EM&A 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** IMPACT FORECAST
 - **Section 11 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 C**.

CONSTRUCTION PROGRESS

- 2.02 The major construction activities undertaken in this Reporting Period are listed below:-
 - Backfilling behind Completed Structure;
 - Road Construction;
 - Carrying out joined survey;
 - Tree protection and tree transplanting works;
 - Utilities companies liasion;
 - Excavation
 - 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 Period is presented in **Table 2-1**.

Table 2-1 Status of Environmental Licenses and Permits

Items	Item Description	License/Permit Status
1	Environmental Permit (EP-231/2005/A)	-
2	Air Pollution Control (Construction Dust)	Notified EPD on 09 July 2007
3	Chemical Waste Producer Registration WPN:5296-519-C3430-01 (Portion 8, Ma Fung Ling Road, Tong Yan San Tsuen, Yuen Long)	
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 07 May 2007



3.0 SUMMARY OF IMPACT MONITORING REQUIREMENTS

- 3.01 The 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 this 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 stations of the air quality, construction noise, stream water quality and ecology monitoring are shown in **Appendix D**.

Table 3-1 Summary of EM&A Requirements

Environmental Issues	Monitoring Parameters		Monitoring Stations
Air Quality	1-hour and 24-hour TS	P	A10
Construction	Leq _(30min) during norma	l working hours	N10a*
Noise	Supplementary data of	L_{10} and L_{90} for reference	N10a*
Stream Water Quality	In Situ Measurement O Dissolved Oxygen Concentration (mg/L); Dissolved Oxygen Saturation (% Sat Turbidity (NTU); pH; Salinity (%); Water Depth (m) and Temperature (°C);		W9A & W9B
	Laboratory Analysis	 Suspended Solids (mg/L); Ammonia Nitrogen (mg/L); and Zinc (μg/L). 	
Ecology	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 ambient noise condition within the victim area without significant change. Due to accessibility problems, noise monitoring will be undertaken at N10a. Once access is available, the impact noise monitoring will be undertaken 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 L_{10} and L_{90} data collected for reference.
- 3.05 Stream water quality monitoring is conducted at two locations (W9A and W9B) twice per week. Dissolved Oxygen (DO), pH and turbidity (NTU) are measured in-situ; water depth, temperature and salinity are collected for relevant data. Suspended solids (SS), ammonia nitrogen and zinc are 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*). Bird survey should be conducted monthly throughout the year and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are to conducted monthly in wet season (April to July inclusive) only. Photographic records should be made at six-month intervals.



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

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

Monitoring Station	Action Level (μg/m³)		Limit Level (μg/m³)	
Wontoning 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

Time Period	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hours on	When one or more documented	> 75* dD(A)
normal weekdays	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)		
Action Level	NA	> 73.5*
Limit Level	NA	> 78.2**
pН		
Action Level	NA	> 7.0*
Limit Level	NA	> 7.1**
Suspended Solids (mg/L)		
Action Level	NA	> 148*
Limit Level	NA	> 159**
Ammonia Nitrogen (mg/L)		
Action Level	NA	> 30.91*
Limit Level	NA	> 32.20**
Zinc (µg/L)		
Action Level	NA	> 242*
Limit Level	NA	> 252**

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

* Alternative Action Level is 120% of upstream control station of same day.

** Alternative Limit Level is 130% of upstream control station of same day.

Table 3-5 Action and Limit Levels for Ecology Monitoring

Parameters	Action Level	Limit Level
Fauna: decrease in the total number of wetland dependant	20 – 40% of	> 40% of
species or individuals of the surveyed faunal groups from	individuals and	individuals and
baseline	species	species

3.08 The Event/Action Plan of air quality, construction noise, stream water quality and ecological monitoring has been implemented for this project. Details of the Event/Action Plan are presented in **Appendix E**.



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 ecological 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 locations are shown in Appendix D.

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

Air Quality Station	
A10	Village House in Tin Sam San Tsuen
Construction Noise Loca	ntion
N10 *	Village House in Tin Sam San Tsuen
N10a	Village House in Tin Sam San Tsuen
Water Quality Locations	8
W9A *	Tin Sam San Tsuen
W9B	Tin Sam San Tsuen

Notes:

- * 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 Reporting Period was extracted from the Lau Fau Shan Station of the Hong Kong Observatory.

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 15 monitoring events were carried out in this Reporting Period.

24-HOUR TSP MONITORING

4.04 The 24-hour TSP monitoring was conducted at station A10 once every six days. A total of 5 monitoring events were carried out in this Reporting Period.

NOISE MONITORING

4.05 Impact noise monitoring was undertaken at location N10a once per week. A total of 5 monitoring events were carried out in this Reporting Period.

STREAM WATER QUALITY MONITORING

4.06 The stream water quality monitoring was undertaken at two locations W9A & W9B twice per week. A total of 18 monitoring events were carried out in this Reporting Period.



ECOLOGY MONITORING

4.07 Bird survey should be conducted in monthly 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. Photographic records should be made at six monthly intervals. One monitoring event was undertaken on 21 August 2009 this month.

MONITORING EQUIPMENT

4.08 Monitoring equipment used by the ET in EM&A program is presented in **Table 4-2**.

Parameters Equipment **Monitoring Equipment** Sibata LD-3 Laser Dust Meter or 1-hour TSP Portable dust meter TSI DuskTrak Model 8520 24-hour Grasby Anderson GMWS 2310 HVS / Tisch High High Volume Sampler TSP Volume Sampler 515N TISCH Model TE-5028A Calibration Kit Leq30min **Integrating Sound Level Meter** Cesva SC-20c Sound Level Meter Calibrator Cesva CB-5 Acoustical Calibrator Portable Wind Speed Indicator Testo Anemometer Water Depth Water Depth Detector Eagle Sonar Temperature Thermometer & DO Meter YSI 550A or YSI 55/12FT DO Thermometer & DO Meter YSI 550A or YSI 55/12FT Hanna HI 98128 or 98107 or Extech Instruments, ExStikTM Model pH110 pH Meter На Hach 2100P **Turbidity** Turbidimeter ATAGO refractometer Salinity Salinometer Water Sampler Teflon bailer / bucket High density polythene bottles (provided by Sample Container laboratory) Storage Container 'Willow' 33-litter plastic cool box

Table 4-2 Monitoring Equipment Used in EM&A Program

24-HOUR TSP MONITORING

- 4.09 The 24-hour TSP monitoring was carried out by a High Volume Sampler (HVS) in compliance with the USEPA Standards Title 40, Code of Federal Regulations Chapter 1 (Part 50) specifications. The HVS employed complied with the PS specifications including.
 - Power supply of 220v/50 hz for 24-hour continuous operation;
 - 0.6-1.7 m³/min (20-60 SCFM) adjustable flow rate;
 - A 7-day mechanical timer for 24-hour operation;
 - An elapsed time indicator with ±2 minutes accuracy for 24-hour operation;
 - Minimum exposed area of 63 in²;
 - Flow control accuracy of $\pm 2.5\%$ deviation over 24-hour operation;
 - An anodized aluminum shelter to protect the filter and sampler;
 - A motor speed-voltage control to control mass flow rate with accuracy of $\pm 2.5\%$ deviation over 24-hour sampling period;
 - Provision of a flow recorder for continuous monitoring;
 - Provision of a peaked roof inlet;
 - Incorporation with a manometer; and
 - An 8"x10" stainless steel filter holder to hold, seal and easy to change the filter paper.



4.10 The filter papers used in 24-hour TSP monitoring were of size 8"x10" and provided by a local HOKLAS-accredited laboratory, ALS Techichem Pty (HK) Limited (HOKLAS No. 66). The filters papers after measurements were returned to the laboratory for the required treatment and analysis.

1-HOUR TSP MONITORING

4.11 Measurement of 1-hour TSP monitoring was taken by TSI DuskTrak Model 8520. That is a portable and battery-operated laser photometer capable of performing real time 1-hour TSP measurements. A comparison test with HVS was carried out prior to baseline monitoring in compliance with the EM&A requirements and a conversion factor for direct reading of the dust meter has been established.

WIND DATA MONITORING

4.12 The meteorological data during the Reporting Period was extracted from the Lau Fau Shan Station of the Hong Kong Observatory.

NOISE MONITORING

- 4.13 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (L_{eq}) measured in decibels (dB). Supplementary statistical results such as L_{10} and L_{90} were also obtained for reference.
- 4.14 Hand-held sound level meters and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specifications were used for taking the impact noise measurements.
- 4.15 Windshield was fitted in all measurements. All noise measurements were made with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (L_{eq}) .
- 4.16 No noise measurement was carried out in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10m/s.

STREAM WATER QUALITY MONITORING

Water Depth

- 4.17 Water quality monitoring will be conducted at the middle of the water columns (Mid-Depth) if the depths of the water columns at the sampling locations are less than 3 meters during monitoring. Or else, monitoring will be performed at two depths, at 1 meter from surface and bottom respectively when the water depth is less than 6m.
- 4.18 Water depths will be determined prior to measurement and sampling at W9A and W9B, using a portable battery operated depth detector, brand named 'Eagle Sonar', if the depths exceed 3 meter. For the depths well below 1 meter, an appropriate steel ruler or rope with appropriate weight will be used for the depth estimation.

Water Temperature

4.19 Although the DO Meter automatically compensates ambient water temperature to a standard temperature of 20°C for ease of comparison of the data under the changing reality, the temperature readings of the DO Meter will be recorded in the field data sheets.



Dissolved Oxygen (DO)

- 4.20 A portable YSI 550A DO Meter will be used for in-situ DO measurement. The DO meter is capable of measuring DO in the range of 0 20 mg/L and 0 200 % saturation and checked against water saturated ambient air on each monitoring day prior to monitoring.
- 4.21 Although the DO Meter automatically compensates ambient water temperature to a standard temperature of 20°C for ease of comparison of the data under the changing reality, the temperature readings of the DO Meter will be recorded in the field data sheets.

pH

4.22 A portable Extech pH Meter will be used for in-situ pH measurement. The pH meter is capable of measuring pH in the range of 0 – 14 and readable to 0.1. Standard buffer solutions of at least pH7 and pH10 shall be used for calibration of the instrument before and after use.

Turbidity (NTU)

4.23 A portable Hach 2100p turbidity meter will be used for in-situ turbidity measurement. The turbidity meter is capable of measuring turbidity in the range of 0 - 1000 NTU.

Salinity

4.24 A portable salinometer capable of measuring salinity in percentage (g/L) will be used for in-situ measure the salinity of stream water at each monitoring location.

Water Sampler

4.25 Water samples will be collected by the ET using a water sampler and 'PE' (Poly-Ethylene) sampling bottles provided by the laboratory. The water sampler will be rinsed before collection with the sample to be taken. Kahlsico Water Sampler will be used for sampling. One liter or 1000mL water sample will be collected from each depth for SS determination. The samples collected are stored in a cool box maintained at 4°C and delivered to ALS upon completion of the sampling by end of each sampling day. Sampling in the stream with shallow water condition, plastic bucket will be used for sample collection.

Sample Container

4.26 Water samples will be contained in screw-cap PE (Poly-Ethylene) bottles, which will be provided and pretreated immediately prior to sampling according to HOKLAS quality requirements by ALS. The sampling bottles will be rinsed with the water to be contained. Water sample is then transferred from the sampler to the sample bottles to 95% bottle capacity to allow possible volume changes during delivery and storage.

Sample Storage

- 4.27 A 'Willow' 33-litter plastic cool box packed with ice will be used to preserve the collected water samples prior to arrival at the laboratory for SS determination. The water temperature of the cool box will be maintained at a temperature as close to 4°C as possible without being frozen. Samples collected will be delivered to the laboratory upon collection.
- 4.28 DO, water temperature, turbidity (NTU), pH, salinity and water depth were measured in-situ whereas SS, Ammonia Nitrogen and Zinc were determined in a HOKLAS accredited laboratory (ALS).



ECOLOGY MONITORING

Study Area

4.29 The study area for the ecological monitoring programme for KT15 covers the seasonal wetland area as shown in Project Profile of KT15 Figures ATT 4-7.2.

Survey Method

- 4.30 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.
- 4.31 Photographic records 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.
- 4.32 Bird monitoring was conducted in the study areas monthly for KT15. Survey areas in KT15 was the seasonal wetland area covered same as the Project Profile of KT15 Figures ATT 4-7.2.
- 4.33 Fauna monitoring is conducted only during the wet season (April to July inclusive for KT15) in the same survey areas for bird monitoring. For KT15, the survey frequency is monthly, and the surveys cover reptiles, amphibians, dragonflies and butterflies.

Equipment

4.34 Standard portable field survey equipment was used for ecological monitoring, including 1) Binoculars of 10 x 40 magnifications; 2) Digital camera; 3) Notebook; and/or 4) Butterfly net (when it is necessary to confirm identities of butterflies and dragonflies).

EQUIPMENT CALIBRATION

- 4.35 Initial calibration of the HVS was performed upon installation and thereafter at bi-monthly intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator. The calibration data are properly documented and the records are maintained by ET for future reference.
- 4.36 The 1-hour TSP meter was calibrated by the supplier prior to purchase. Zero response of the equipment is checked before and after each monitoring event. A comparison test was carried out with a HVS. A conversion factor (K) of 4.0 was generated in accordance with the equipment manufacturer's instruction. The meter counts in minutes multiplied by the conversion factor will generate the equivalent dust concentration by HVS.
- 4.37 The sound level meters are calibrated using an acoustical calibrator prior to and after measurements. The meters are regularly calibrated in accordance with the manufacturer's instructions. Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustical calibrator generating a known sound pressure level at a known frequency. Measurements are considered valid only if the calibration levels before and after the noise measurement agree to within 1.0 dB.



- 4.38 All in-situ stream water quality monitoring instruments are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at 3 monthly intervals throughout all monitoring stages.
- 4.39 The calibration certificates of the monitoring equipment used during the impact monitoring program are attached in **Appendix F**.

ANALYTICAL LABORATORY

4.40 Our ET has commissioned a local HOKLAS-accredited laboratory, ALS Technichem (HK) Pty Ltd (HOKLAS No. 66) to provide analytical services for this project. ALS carried out sample and analysis control in accordance with the HOKLAS QA/QC requirements. The specified testing services provided by ALS as shown in **Table 4-3**.

Table 4-3 Analytical Method applied to Water Quality Samples

Determinant	Standard Method	Detection Limit		
Suspended Solids	ALS Method EA025	2 mg/L		
Ammonia Nitrogen	ALS Method EK055A	0.01 mg/L		
Zinc	ALS Method EG020	10 μg/L		

4.41 The analysis of suspended solids, ammonia nitrogen and zinc concentrations were follow the APHA Standard Methods for the Examination of Water and Wastewater 19ed 2540D. ALS Environmental has comprehensive quality assurance and quality control programs and has attained HOKLAS accreditation for a range of environmental testing. For QA/QC procedures, one duplicate sample for every batch of samples was analyses as required by the HOKLAS. The QA/QC results are presented in **Appendix H**.

DATA MANAGEMENT AND DATA QA/QC CONTROL

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



5.0 IMPACT MONITORING RESULTS

5.01 The impact monitoring was carried out by the ET in compliance with the project specific EM&A Manual. The impact monitoring schedules are shown in **Appendix G** and the monitoring results are presented in the following sub-sections.

AIR QUALITY

5.02 The 1-hour and 24-hour TSP impact monitoring data are summarized in **Tables 5-1** and **5-2**. Graphical plots of the past four month monitoring results are shown in **Appendix H**.

Table 5-1 Summary of 1-hour TSP Monitoring Results at A10

Monitoring Date	Start Time	1 st Result (μg/m ³)	2 nd Result (μg/m ³)	3 rd Result (μg/m ³)	Action Level (µg/m³)	Limit Level (µg/m³)
29-Jul-09	09:19	62	69	67	> 307	> 500
4-Aug-09	09:27	41	43	38	> 307	> 500
10-Aug-09	09:26	87	93	91	> 307	> 500
15-Aug-09	09:22	78	83	80	> 307	> 500
21-Aug-09	09:27	43	51	44	> 307	> 500

Notes: Bold and italic means exceeded the Action Level. Bold and underline means exceeded the Limit Level.

Table 5-2 Summary of 24-hour TSP Monitoring Results at A10

Monitoring Date	Monitoring Results (μg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
28-Jul-09	12	> 165	> 260
3-Aug-09	52	> 165	> 260
8-Aug-09	17	> 165	> 260
14-Aug-09	31	> 165	> 260
20-Aug-09	7	> 165	> 260

Notes: Bold and italic means exceeded the Action Level. Bold and underline means exceeded the Limit Level.

- 5.03 No 1-hour and 24-hour TSP monitoring results that triggered the Action or Limit Level was recorded in this Reporting Period.
- 5.04 The meteorological data during the monitoring period are summarized in **Appendix I**.

CONSTRUCTION NOISE

5.05 The impact construction noise monitoring results are summarized in **Table 5-3**. Graphical plots of the past four month monitoring results are shown in **Appendix H**.

Table 5-3 Summary of Noise Monitoring Results at N10a

Date	Start Time	1st Leq5	2nd Leq5	3 rd Leq5	4th Leq5	5th Leq5	6 th Leq5	Leq30
29-Jul-09	09:33	60.8	59.5	58.0	57.8	59.9	60.4	59.5
4-Aug-09	09:40	53.5	52.1	51.7	51.4	51.3	51.8	52.0
10-Aug-09	09:48	44.7	44.5	44.2	45.9	45.8	44.8	45.0
15-Aug-09	09:35	48.0	47.6	49.3	47.8	48.8	48.5	48.4
21-Aug-09	09:39	45.4	45.7	47.0	48.8	47.6	46.8	47.0
Limit Le	vel	•						> 75 dB(A)

5.06 No construction noise complaint (Action Level) was received and all measured noise levels were below the Limit Level in this Reporting Period.



STREAM WATER QUALITY

- 5.07 No stream water quality monitoring result trigger the Action or Limit Level was recorded in this reporting period. The impact monitoring schedules are shown in Appendix G.
- 5.08 The stream water quality monitoring results are summarized in Table 5-4 and graphical plots are presented in Appendix H.

Table 5-4 Summary of Stream Water Quality Results at W9A & W9B

Monitoring	DO in	mg/L	Turbid	ity (NTU)	I	Н	SS in	n mg/L		a nitrogen g/L)	Zinc	(μg/L)
Date	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B
27-Jul-09	6.3	5.0	17.3	19.7	7.7	6.7	2.0	14	0.7	0.81	16.0	16
29-Jul-09	5.7	4.6	15.8	19.9	7.8	6.9	39.0	37	1.7	1.65	23.0	25
3-Aug-09	4.8	4.0	15.4	21.0	7.1	6.7	40.0	36	0.8	0.74	25.0	27
5-Aug-09	5.0	4.6	13.3	18.5	6.8	6.9	48.0	76	1.6	1.80	108.0	142
10-Aug-09	4.5	2.8	12.4	19.3	6.8	6.8	24.0	25	4.7	4.57	31.0	33
12-Aug-09	4.1	3.7	10.4	16.1	6.7	6.9	15.0	15	0.1	0.08	26.0	32
17-Aug-09	4.0	3.8	11.8	15.5	6.8	6.5	7.0	7	0.0	0.03	<10	<10
19-Aug-09	3.9	3.6	11.3	14.4	6.9	6.4	10.0	9	0.0	0.02	12.0	<10
24-Aug-09	4.5	2.9	12.2	13.9	6.8	6.5	71.0	81	0.2	0.16	31.0	35
Action Level	-	< 0.3*	-	> 73.5*	-	> 7.0*	-	> 148*	-	> 30.91*	-	> 242*
Limit Level	-	< 0.2**	-	> 78.2**	-	> 7.1**	-	> 159**	-	> 32.20**	-	> 252**

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

Bold and italic is exceed the Action Level.

Bold and underline is exceed the Limit Level

- * Alternative Action Level is 120% of upstream control station of same day.
- ** Alternative Limit Level is 130% of upstream control station of same day.



ECOLOGY

- 5.09 Thirty nine (39) individuals of birds from fifteen (15) species were recorded during the survey for the present monthly monitoring on 21 August 2009. Among the birds recorded, one individual from one wetland bird species with abundance from the baseline (i.e. Cattle Egret and Chinese Pond Heron) was recorded. Compared with the average abundance of 1.2 individuals from 2 species of wetland dependent birds recorded during the baseline study for the KT15 Project Profile, the species number of wetland dependent bird recorded triggered the Limit Level for the monitoring requirements for ecology. (i.e. decrease in the number of species or individuals > 40% from the baseline).
- 5.10 No intrusion of construction activities into the wetland areas and no discharge to the adjacent wetlands were found during the site audit on 21 August 2009. Investigation report revealed that the major construction works being carried out during the exceedance day were only erection of formwork and concreting. Those activities would not cause any disturbance to the adjacent wetlands. Therefore, it is concluded that the exceedance was not caused by work under the project.
- 5.11 Photographic records are scheduled in six-month intervals, the last photographic records were taken in June 2009, and therefore it is not required in the present reporting month.
- 5.12 Ecology Impact Monitoring Results are presented in **Tables 5-5**.

Table 5-5 Summary of Ecology Impact Monitoring Surveys Bird Survey

Scientific Name	Scientific Name Common Name		Abundance recorded in the present survey (21 August 09)	
Birds				
Bubulcus ibis	Cattle Egret	0.4		
Ardeola bacchus	Chinese Pond Heron	0.8	1	
Amaurornis phoenicurus	White-breasted Waterhen	Recorded only		
Streptopelia chinensis	Spotted Dove	Recorded only	4	
Hirundo rustica	Barn Swallow	Recorded only	5	
Motacilla alba	White Wagtail	Recorded only	1	
Pycnonotus jocosus	Red-whiskered Bulbul	Recorded only	3	
Pycnonotus sinesis	Chinese Bulbul	Recorded only	3	
Lanius schach	Long-tailed Shrike	Recorded only	2	
Copsychus saularis	Oriental Magpie Robin	Recorded only	2	
Orthotomus sutorius	Common Tailorbird	Recorded only	1	
Lonchura striata	White-rumped Munia	Recorded only		
Passer montanus	Eurasian Tree Sparrow	Recorded only	7	
Sturnus nigricollis	Black-collared Starling	Recorded only	2	
Acridotheres cristatellus	Crested Myna	Recorded only	3	
Prinia flaviventris	Yellow-bellied Prinia	\	2	
Garrulax perspicillatus	Masked Laughingthrush	\	2	
Centropus bengalensis	Lesser Coucal	\	1	
Species Number		15 spp. recorded, (only 2 species of wetland birds with abundance)	15 spp. (1 sp. from the wetland birds with abundance in the baseline)	
Individual Number		1.2 (from the 2 species of wetland birds with abundance)	39 (1 from the wetland birds with abundance in the baseline)	

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



6.0 WASTE MANAGEMENT

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

RECORDS OF WASTE QUANTITIES

KT15 – Monthly EM&A Report for August 2009 (No. 26)

- 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 The quantities of waste for disposal in this Reporting Period are summarized in **Tables 6-1** and **6-2.** Whenever possible, materials were reused on-site as far as practicable.

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

Type of Waste	Quantity	Disposal Location
Broken Concrete (Inert) (m ³)	0	Public Filling
Reused in this Contract (Inert) (m ³)	0	N/A
Reused in other Projects (Inert) (m ³)	0	N/A
Disposal as Public Fill (Inert) (m ³)	0	Tuen Mun Area 38

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

Type of Waste	Quantity	Disposal Location
Recycled Metal (kg)	0	NA
Recycled Paper / Cardboard Packing (kg)	0	NA
Recycled Plastic (kg)	0	NENT Landfill
Chemical Wastes (kg)	0	License Collector
General Refuses (m ³)	14	NENT Landfill

6.04 The quantities of excavation soil for marine disposal in this Reporting Period are summarized in **Table 6-3**.

 Table 6-3
 Summary of Excavated Soil for Marine Disposal

Type of Waste	Location	Date	Total	Disposal Location
Type 1 Materials (m ³)	-	-	-	East Sha Chau (Pitch 4a & 4b)
Type 2 Materials (m ³)	-	-	-	East Sha Chau (Pitch 4c)



7.0 SITE INSPECTION

- 7.01 According to Section 9.1.2 of the EM&A Manual, the environmental weekly site inspection should be formulated by the ET Leader. The ET had carried out the environmental weekly site inspection on 29 July, 5, 12, 19 and 24 August 2009 with the representatives of the Engineer and the Contractor to evaluate the site environmental performance in this Reporting Period. The IEC monthly site audit was conducted on 19 August 2009 by IEC's representative with the Engineer's, the Contractor's and ET's representatives. No non-compliance but three observations were noted.
- 7.02 Findings of the site inspection and environmental audit are summarized below –

Table 7-1 Summary of Findings of Site Inspection and Environmental Audit

Date	Findings / Deficiencies	Follow-Up Status
29 July 2009	Used timer was observed at Ch. 200, the Contractor is urged to clear the waste and improve the housekeeping of the construction site.	During the site inspection on 29 July 2009, the used timer scattered at Ch. 200 have been removed.
5 August 2009	 No adverse environmental issue was found during this weekly environmental site inspection. As a reminder, ponding water should be pumped off from any excavation pit after rainfall to eliminate mosquitoes breeding. 	No follow-up was necessary.
12 August 2009	 No adverse environmental issue was found during this weekly environmental site inspection 	No follow-up was necessary.
19 August 2009	Larvicidal oil and chemical waste were observed at Bay 4 and 17. The Contractor is reminded to store unused chemicals in proper chamber, and dispose off any chemical waste properly.	During the site inspection on 24 August 2009, larvicidal oil and chemical waste were observed at Bay 4 and 17 have been removed by the Contractor.
24 August 2009	• Exposed slope was observed at Bay 1, the Contractor should cover the slope with tarpaulin sheet to prevent generation of run-off to the river.	Will be reported in the next reporting month

- 7.03 The ET weekly site inspection and IEC monthly site audit checklists are shown in **Appendix J.** In general, the construction area of KT15 was kept clean and tidy.
- 7.04 No site visit or inspection carried out by Environmental Protection Department took place in this Reporting Period.



8.0 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

KT15 – Monthly EM&A Report for August 2009 (No. 26)

ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.01 No environmental complaint, summons and prosecution was received in this Reporting Period. Statistical summaries environmental complaint, summon and prosecution are presented in **Tables 8-1**, **8-2** and **8-3**.

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Enviro	Environmental Complaint Statistics											
Keporting 1 eriou	Frequency	Cumulative	Complaint Nature										
July – December 2007	0	0	NA										
January – December 2008	0	0	NA										
January –July 2009	0	0	NA										
August 2009	0	0	NA										

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Enviro	Environmental Summons Statistics											
Keporting reriou	Frequency	Cumulative	Nature										
July – December 2007	0	0	NA										
January – December 2008	0	0	NA										
January –July 2009	0	0	NA										
August 2009	0	0	NA										

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Enviror	Environmental Prosecution Statistics												
Reporting 1 eriou	Frequency	Cumulative	Nature											
July – December 2007	0	0	NA											
January – December 2008	0	0	NA											
January –July 2009	0	0	NA											
August 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 Reporting Period 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:

KT15 – Monthly EM&A Report for August 2009 (No. 26)

- 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;
- 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 IMPACT FORECAST

KEY ISSUES FOR THE COMING MONTH

- 10.01 Key issues to be considered in the coming month include:
 - Implementation of dust suppression measures at all times;
 - Potential wastewater quality impact due to surface runoff;
 - Potential fugitive dust quality impact from the dry/loose/exposure soil surface/dusty material;
 - Disposal of empty engine oil containers within site area;
 - Ensure dust suppression measures are implemented properly;
 - Sediment catch-pits and silt removal facilities should be regularly maintained;
 - Management of chemical wastes;
 - Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials and any dredging or construction activity at nearby wetland are prohibited;
 - Follow-up of improvement on general waste management issues; and
 - Implementation of construction noise preventative control measures.
- 10.02 The tentative 3-month rolling program is presented in **Appendix B**.

CONCLUSION

11.0

KT15 – Monthly EM&A Report for August 2009 (No. 26)

11.01 The EM&A program in August 2009 was 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 Period are presented in Table 11-1.

Table 11-1 Summary of the Exceedances for Impact Monitoring

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

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

- 11.02 No 1-hour and 24-hour TSP monitoring results that triggered the Action or Limit Level were recorded in this Reporting Period.
- 11.03 No construction noise complaint (an Action Level exceedance) was received and no monitoring noise level above the Limit Level was recorded in this Reporting Period.
- 11.04 No water quality monitoring results exceedances were recorded in this Reporting Period.
- 11.05 One individual from one wetland bird species with abundance from the baseline was observed during the survey on 21 August 2009, although a total of 39 individuals of birds from 15 species were recorded. The species number of wetland dependent bird recorded triggered the Limit Level. However, no intrusion of construction activities into the wetland areas and no discharge to the adjacent wetlands were found on 21 August 2009 during site Investigation report revealed that the major construction works being carried out during the exceedance day were only erection of formwork and concreting. Those activities would not cause any disturbance to the adjacent wetlands. Therefore, it is concluded that the exceedance was not caused by work under the project.
- 11.06 No environmental complaint, summons or prosecution was received in this Reporting Period.
- 11.07 The ET environmental weekly site inspection were conducted on 29 July, 5, 12, 19 and 24 August 2009. Although no non-compliance was found, totally three observations were recorded. The Contractor has been reminded to improve the observed deficiency. Details of the observations were as follows:-

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 – Monthly EM&A Report for August 2009 (No. 26)

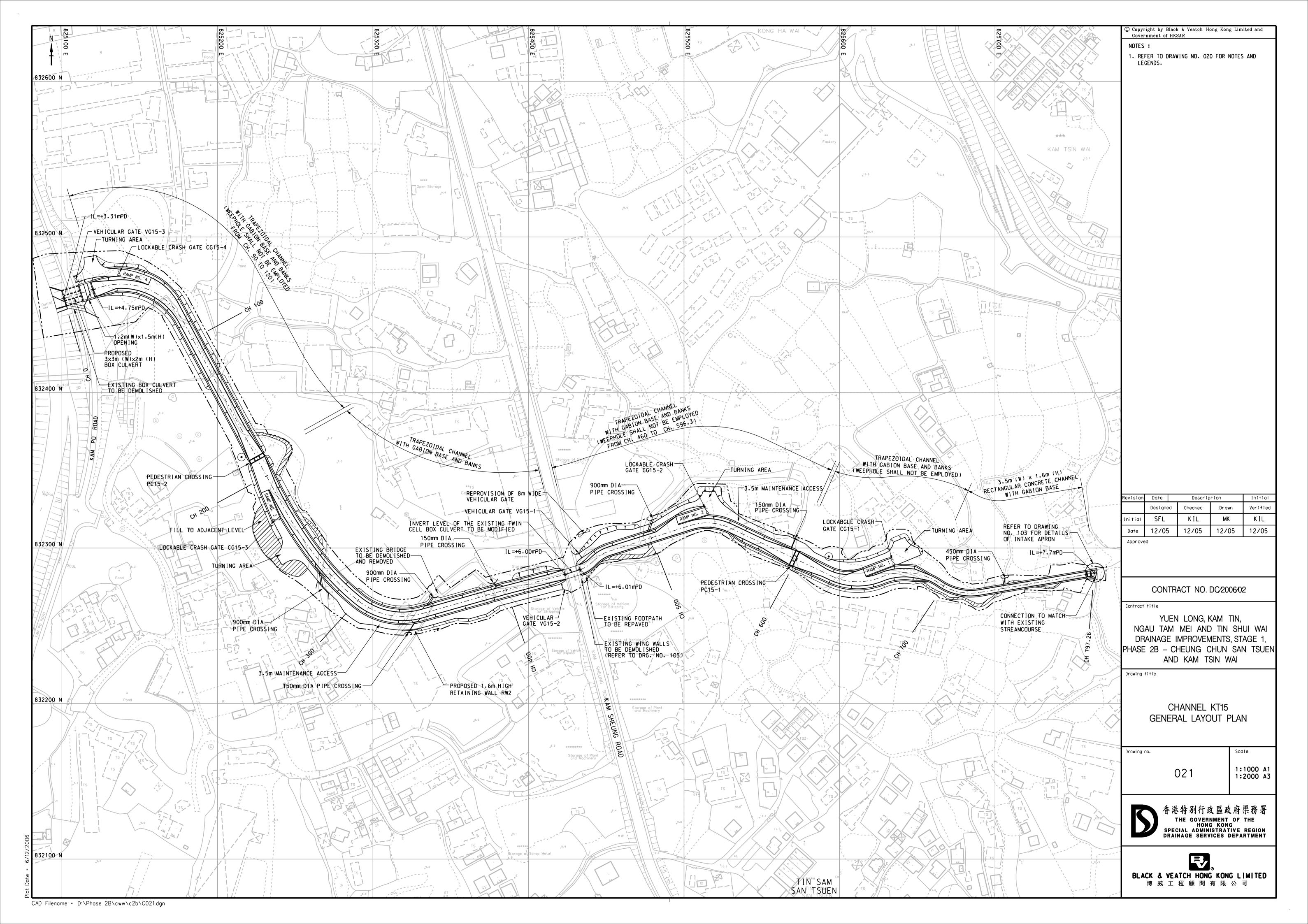


- Used timer was observed at Ch. 200, the Contractor is urged to clear the waste and improve the housekeeping of the construction site.
- Larvicidal oil and chemical waste were observed at Bay 4 and 17. The Contractor is reminded to store unused chemicals in proper chamber, and dispose off any chemical waste properly.
- Exposed slope was observed at Bay 1, the Contractor should cover the slope with tarpaulin sheet to prevent generation of run-off to the river.
- 11.08 No site visit or inspection carried out by Environmental Protection Department took place in this Reporting Period.
- 11.09 The ET will continue to implement the EM&A program and audit the implementation of the environmental mitigation measures.



APPENDIX A

PROJECT SITE LAYOUT





APPENDIX B

THREE-MONTH CONSTRUCTION PROGRAM

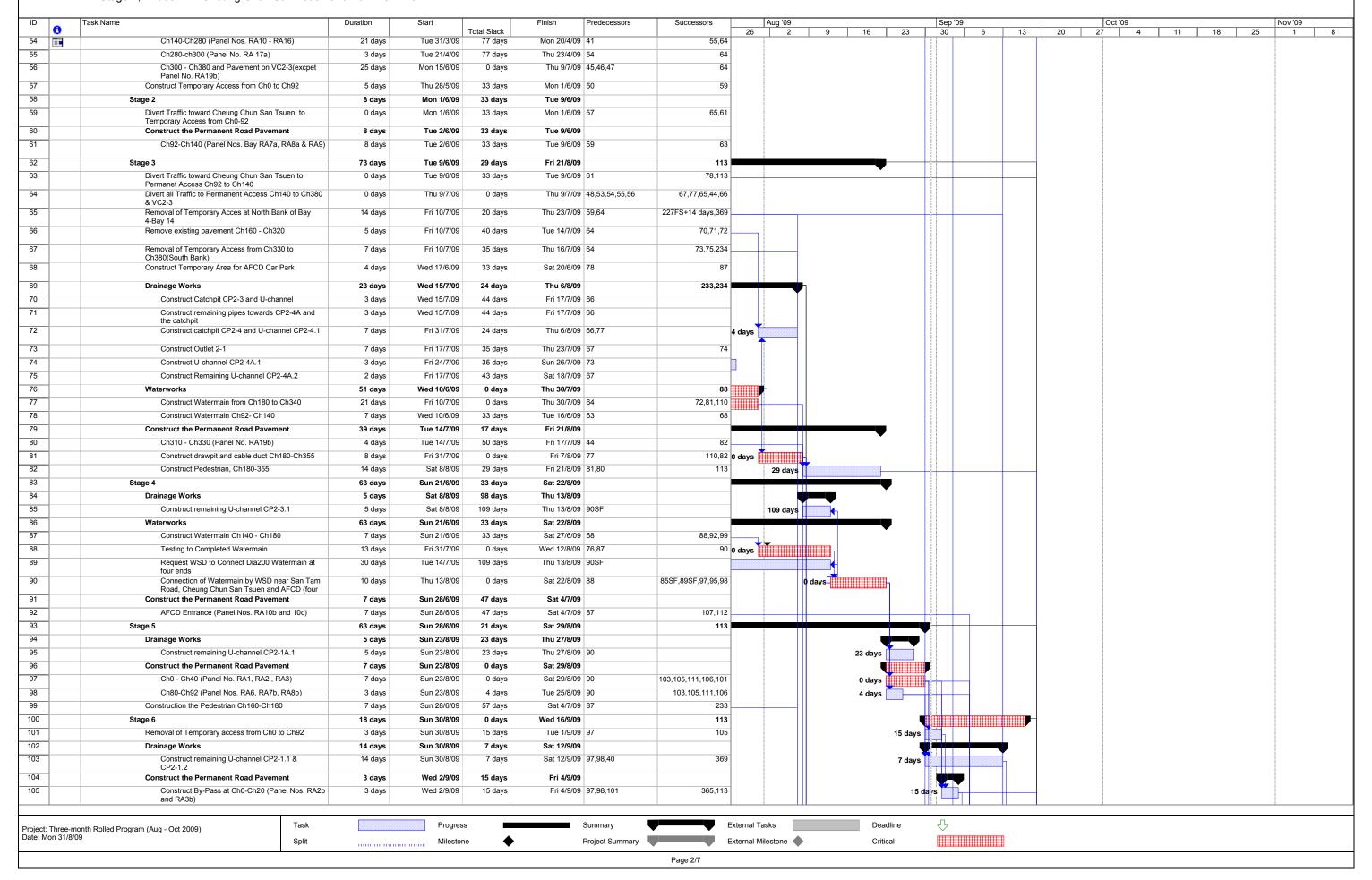
ID _	Task Name	Duration	Start		Finish	Predecessors Successors	Aug '09 Sep '09 Oct '09 Nov '09
1	Letter of Acceptance	1 day	Wed 21/3/07	Total Slack 937 days	Wed 21/3/07		26 2 9 16 23 30 6 13 20 27 4 11 18 25 1 8
2	Date for commencement of Works	1 day	Fri 30/3/07	928 days	Fri 30/3/07		
3	Execution of Article of Agreement	1 day	Tue 3/4/07	0 days	Tue 3/4/07		
4	3.7.7.	,		, .			
5	Master Program of Works	965 days	Fri 30/3/07	0 days	Wed 18/11/09		
6	Master i rogram or works	-					
7	Completion Dates	905 days	Fri 30/3/07	0 days	Sat 19/9/09		
8	Section I - portions 1, 2 and 3	905 days	Fri 30/3/07	0 days	Sat 19/9/09		
9	Section II - portions 4, 5 and 5C	905 days	Fri 30/3/07	0 days	Sat 19/9/09		
10	Section III - portions 5A1, 5A2 and 5B	746 days	Thu 28/6/07	0 days	Sun 12/7/09	20FS-1 day	
11	Section IV - temp vehicular access at portion 5A1	90 days	Thu 28/6/07	641 days	Tue 25/9/07	20FS-1 day 22	
12	Section V - preservation and protection of existing trees	905 days	Fri 30/3/07	0 days	Sat 19/9/09		
13							
14	Possession of Site	200 days	Fri 30/3/07	0 days	Mon 15/10/07		
15	Portion 1 - channel KT2	1 day	Fri 30/3/07	0 days	Fri 30/3/07		
16	Portion 2 - channel KT2	61 days	Fri 30/3/07	780 days	Tue 29/5/07		
17	Portion 3 - channel KT2	91 days	Fri 30/3/07	750 days	Thu 28/6/07		
18	Portion 4 - channel KT15 Portion 5 - channel KT15	1 day	Fri 30/3/07	0 days	Fri 30/3/07		
19	Portion 5 - channel K115 Portion 5A1 - channel KT15	91 days	Fri 30/3/07 Fri 30/3/07	750 days	Thu 28/6/07 Thu 28/6/07	FS-1 day,11FS-1 day	
20	Portion 5A1 - channel K115 Portion 5A2 - channel KT15	91 days 91 days	Fri 30/3/07	0 days 750 days	Thu 28/6/07	r5-1 day,11r5-1 day	
22	Portion 5B - channel KT15 Portion 5B - channel KT15	20 days	Wed 26/9/07	641 days	Mon 15/10/07	11	
23	Portion 5C - channel KT15	91 days	Fri 30/3/07	0 days	Thu 28/6/07		
24	Portion 6 - Temp Storage Area at Chi Ho Road	1 day	Fri 30/3/07	0 days	Fri 30/3/07		
25	Portion 7 - Berthing Area	1 day	Fri 30/3/07	0 days	Fri 30/3/07		
26	Portion 8 - Site Accommodation	1 day	Fri 30/3/07	0 days	Fri 30/3/07		
27							
28	Section I of Works	905 days	Fri 30/3/07	60 days	Sat 19/9/09		
29	Drainage Works, Waterworks and Roadworks in vincinity of Cheung Chun San Tsuen access	905 days	Fri 30/3/07	60 days	Sat 19/9/09		
30	Backfill above Box Culvert Bay 4-6 up to formation	88 days	Mon 2/2/09	33 days	Thu 30/4/09	50	
31	Openning of Bay 1 to Kam Tin River	0 days	Mon 23/3/09	22 days	Mon 23/3/09	36	
32	Divert Traffic to Bay 32b	0 days	Mon 2/2/09	136 days	Mon 2/2/09	34	
33	Stage 1	837 days	Fri 30/3/07	68 days	Mon 13/7/09		
34	Construct the Channel Bay 28-29	68 days	Mon 2/2/09	136 days	Fri 10/4/09		
35	Divert Tarffic to Temporary Access at North bank from Bay 14 to Bay 32	0 days	Tue 14/4/09	0 days	Tue 14/4/09	36	
36	Removal of existing crossing(yellow bridge)	5 days	Tue 14/4/09	0 days	Sat 18/4/09	31,35 37	
37	Fill the existing stream bed to road formation near	39 days	Sun 19/4/09	0 days	Wed 27/5/09	36 45,46,48,51,165,166	
38	Crossing VC2-3 (Bay 33-Bay 36) Drainage Works	837 days	Fri 30/3/07	68 days	Mon 13/7/09		
39	Construct Dia370 Drainage Pipe CP2-1A to CP2-1	5 days	Mon 2/2/09	206 days	Fri 6/2/09		
40	and the catchpits Construct Half long U-channel CP2-1A.1	F days	Sat 7/2/09	206 dove	Wed 11/2/09	39 103	
41	Construct Dia375 Drainage Pipe CP2-1B to CP2-3	5 days 3 days	Fri 30/3/07	206 days 806 days	Sun 1/4/07		
	Ŭ,			-			
42	Construct Dia275 Prainage Pine from Pay 27	14 days	Mon 2/4/07	888 days	Sun 15/4/07 Tue 14/4/09		
43	Construct Dia375 Drainage Pipe from Bay 27 Construct gullies G2-1 & G2-2 and dia150 pipes	4 days	Sat 11/4/09 Fri 10/7/09	136 days 50 days	Mon 13/7/09		
	towards CP2-4						
45	Construct Part of Dia150 Drainage Pipe towards Outlet 2-1	4 days	Thu 28/5/09	0 days	Sun 31/5/09	51,56	
46	Construct Part of Dia600 Drainage Pipe towards Catchpit CP2-4A	4 days	Thu 28/5/09	0 days	Sun 31/5/09	37 51,56	
47	Construct Gullies G2-3 & G2-4 and Dia150mm	4 days	Thu 11/6/09	0 days	Sun 14/6/09	51 56	
48	Pipes towards CP2-4A Construct part of U-channel CP2-4A.2(near	2 days	Thu 28/5/09	41 days	Fri 29/5/09	37 64	
	permanent access's end)						
49	Waterworks	41 days	Fri 1/5/09	19 days	Wed 10/6/09		
50 51	Construct Watermain from Ch0 to Ch92 Construct Watermain from Ch340 to Ch380	27 days 10 days	Fri 1/5/09 Mon 1/6/09	33 days 0 days	Wed 27/5/09 Wed 10/6/09		
52	Construct the Permanent Road Pavement	101 days	Tue 31/3/09	0 days	Thu 9/7/09		
53	Ch40-Ch80 (Panel Nos. RA4 & RA5)	5 days	Mon 13/4/09	83 days	Fri 17/4/09		
		,-					
	conth Polled Program (Aug. Oct 2000) Task		Progress			Summary	External Tasks Deadline
Project: Three-n Date: Mon 31/8/	nonthi Rolled Frogram (Aug - Oct 2009)		_			. •	
	Split		Milestone	—			External Milestone Critical
						Page 1/7	

PROGRAMME OF WORKS - RP26

Contract No. : DC / 2006 / 02

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



	Aug '09	Successors	Predecessors	Finish	Total Slack	Start	Duration	sk Name	6
0 days		111,107	97,98	Sun 6/9/09	0 days	Sun 30/8/09	8 days	Construct the drawpit and cable duct Ch40-Ch140	
3 days			92,106	Wed 16/9/09	3 days	Mon 7/9/09	10 days	Construct Pedestrian, Ch0-Ch140	
		113		Sat 19/9/09	0 days	Sat 8/8/09	43 days	LCEL erect light poles and laying cable	
0 days			110	Sat 19/9/09	0 days	Fri 21/8/09	30 days	Request LCEL to erect poles and lay cable	
/s	0 days	109		Thu 20/8/09	0 days	Sat 8/8/09	13 days	Ch160 - Ch380	
0 days			97,98,106		0 days	Mon 7/9/09	13 days	Ch0-Ch140	
		113,365		Mon 3/8/09	47 days	Sun 5/7/09	30 days	Construction of Slope adjacent to AFCD's Pond	
19/9			62,63,93,100,108,42,	Sat 19/9/09	0 days	Sat 19/9/09	0 days	Completion of Portion 1 and Portion 2	
				F-: 40/0/00	F0 -1	M 0/0/00	000 dava	Operation of Bond and Observation Visitation of Consider	
				Fri 18/9/09	50 days	Mon 2/2/09	229 days	Construction of Road and Channel in Vicinity of Crossing VC2-1	
		119,120		Mon 2/2/09	50 days	Mon 2/2/09	1 day	Completion of Channel Bay 71 to Bay 73	
				Fri 5/6/09	50 days	Tue 3/2/09	123 days	Stage 1	
		121SS+7 days,122,130	117	Sat 14/3/09	50 days	Tue 3/2/09	40 days	Backfill up to Road Formation	
		122,130	117	Thu 5/2/09	87 days	Tue 3/2/09	3 days	Demolishing part of existing road pavement at South	
		133,122	119SS+7 days	Tue 24/2/09	68 days	Tue 10/2/09	15 days	Bank Construct Drainage Pipe and catchpit at west side of	
		123,136,133,126	119,120,121	Fri 15/5/0§	0 days	Mon 4/5/09	12 days	road Construct Watermain	
		125		Tue 26/5/09	7 days	Sat 16/5/09	11 days	Testing to Watermain	-
		.25		Wed 27/5/09		Mon 27/4/09	·	Request WSD to connect watermain	
					188 days		30 days	·	
		124SF,142		Fri 5/6/09	7 days	Wed 27/5/09	10 days	Connect new watermain to existing watermain by WSD	
		128,133	122,130	Mon 25/5/09	0 days	Sat 16/5/09	10 days	Construct new cable duct and pit for public lighting	
			128SF	Tue 26/5/09	189 days	Sun 26/4/09	30 days	Request LCEL to relocate pole and laying new cable	
		127SF,135	126	Thu 4/6/09	65 days	Tue 26/5/09	10 days	relocate light pole VA5367 and laying new cable by LCEL	
			130SF	Tue 7/4/09	238 days	Sun 8/3/09	30 days	Request PCCW to construct new cable and pit	
		129SF,131,126	119,120	Thu 16/4/09	27 days	Tue 7/4/09	10 days	Construct PCCW cable and pit(by PCCW)	
		142	130	Sat 16/5/09	27 days	Fri 17/4/09	30 days	Laying New Cable and Removal of PCCW's temporary	_
				Fri 12/6/09	10 days	Sat 16/5/09	20 days	overhead cable and poles	
		134	121,122,126		10 days 0 days	Tue 26/5/09	28 days 15 days	Stage 2 Construct the permanent road pavement Panel No.	
					-		·	RB29, RB28, RB27, RB26a RB26b	
		138	133	Fri 12/6/09	0 days	Wed 10/6/09	3 days	Curing of Permanent road	
		140	128	Wed 10/6/09	65 days	Fri 5/6/09	6 days	Demolishing part of existing road pavement at North Bank	
		138	122	Wed 20/5/09	23 days	Sat 16/5/09	5 days	Construct two new temporary accesses	
				Fri 18/9/09	0 days	Fri 12/6/09	98 days	Stage 3	
		139,142	134,136	Fri 12/6/09	0 days	Fri 12/6/09	0 days	Divert Traffic to cosntructed permanent road pavement	
		140	138	Mon 15/6/09	60 days	Sat 13/6/09	3 days	and new temporary access Removal of remaining part of pavement near "Pet	
								World"	
		141	135,139	Mon 22/6/09	60 days	Tue 16/6/09	7 days	Construct the remaining drainage pipe and catchpit near "Pet World"	
		148	140	Sun 12/7/09	60 days	Tue 23/6/09	20 days	Constrcut the remaining part of permanent road pavement near "Pet World" (Panel Nos. RB30, RB31a&b, RB32a&b, RB33a-d, RB34a&b, RB35a&b))	
		143	125,138,131	Wed 17/6/09	0 days	Sat 13/6/09	5 days	RB31a&b, RB32a&b, RB33a-d, RB34a&b, RB35a&b)) Removel of temporary access at Channel Bay74	
		144,145	142	Wed 19/8/09	0 days	Thu 18/6/09	63 days	Construct the Channel Bay 74 and Bay 75	
1 day		151	143	Fri 18/9/09	1 day	Thu 20/8/09	30 days	Construct on gabion inside Bay 74 and 75	
0 days		146	143	Wed 2/9/09	0 days	Thu 20/8/09	14 days	Backfilling to Final Ground Level	
0 days		239		Sat 12/9/09	0 days	Thu 3/9/09	10 days	Construct the U-channel and handrailing near bay 74	
				Tue 21/7/09	60 days	Sun 12/7/09	9 days	and 75 Stage 4	
		440							
		149		Sun 12/7/09	60 days	Sun 12/7/09	0 days	Divert traffic to all completed new road pavement	
		150		Fri 17/7/09	60 days		5 days	Removal of the new temporay access	
		151	149	Tue 21/7/09	60 days	Sat 18/7/09	4 days	Construct 375 U-channel under new temporary access	
Deadline	Tasks	Ext	Summary			Progress		Rolled Program (Aug - Oct 2009)	Three-mont
Critical	Milestone	Ext	Project Summary		э	Milestone		Split	on 31/8/09
Critical	Milestone	Page 3/7	Project Summary		<u>;</u>	Milestone			Ion 31/8/09

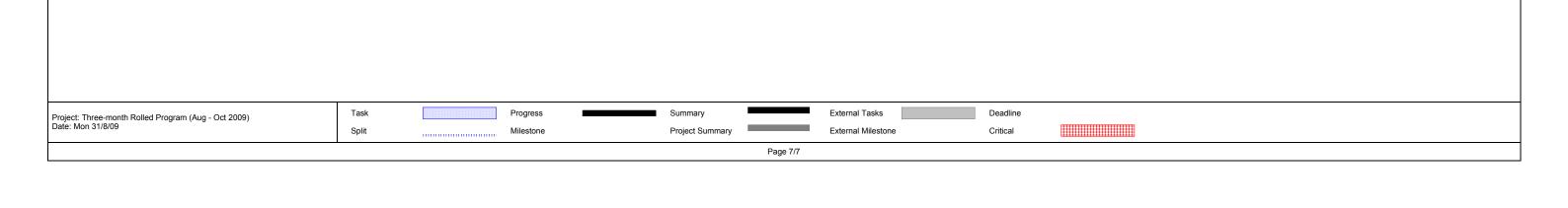
ID _	Task Name	Duration	Start		Finish	Predecessors Success		Aug '09				Sep '09			Oct '09			Nov '09	
151	Completion of Portion 3	0 days	Fri 18/9/09	Total Slack 1 day	Fri 18/9/09	144 150		26 2	9	9 16 23	3	30 6	13 20	0 2	7 4	11	18	25 1	8
152	Completion of Fortion 5	0 days	111 10/3/03	rday	111 10/3/03	144,100							10/9						
153	Area except the Chenng Chun San Tsuen access and VC2-1	905 days	Fri 30/3/07	60 days	Sat 19/9/09														
154	access	100 days	Tue 7/4/00	O dovo	S-+ 40/0/00		224					<u> </u>							
	U-channel CP2-16.1(600U, 35m)	166 days	Tue 7/4/09	0 days	Sat 19/9/09 Thu 16/4/09		224 156												
155	CP2-8A.1(375U, 55m)	•	Wed 13/5/09	85 days 59 days	Fri 22/5/09		SF,157												
157	CP2-6A: 1(3750, 3511)	10 days 6 days	Sat 6/6/09	45 days	Thu 11/6/09	·	SF,157												
157	CP2-7.2(3750, 44ff)	2 days	Fri 12/6/09	45 days	Sat 13/6/09		· I												
159	CP2-7A.2(375U, 26m)	4 days	Thu 18/6/09	41 days	Sun 21/6/09		SF,160												
160	CP2-7A.1(375U, 51m)	8 days	Tue 30/6/09	33 days	Tue 7/7/09		SF,161												
161	CP2-7A: 1(375U, 18m)	3 days	Wed 8/7/09	33 days	Fri 10/7/09		SF,161												
162	CP2-9.1(6790, 1811)	-	Thu 30/7/09	14 days	Thu 6/8/09		63,235 days	}											
163	CP2-9.1(0000, 36III)	8 days	Fri 14/8/09	7 days	Fri 21/8/09		SF,164	S 📥	-	—									
164	CP2-6.1(750U, 29m)	6 days	Sat 29/8/09	0 days	Thu 3/9/09	·	SF,165		7 day			<u></u>							
165	CP2-5.1(7300, 2911)	9 days	Fri 4/9/09	0 days	Sat 12/9/09	·	SF,166			0 day	11111								
166	CP2-5.2(0000, 47III)	-	Sun 13/9/09	-	Sat 12/9/09 Sat 19/9/09		197SF				U	days							
	1 1	7 days		0 days								0 days							
167	CP2-11A.1(375U, 36m)	6 days	Fri 1/5/09	100 days	Wed 6/5/09		168												
168	CP2-11A.2(375U, 30m) CP2-14B.1(375U, 4m)	6 days	Thu 7/5/09	100 days	Tue 12/5/09 Thu 14/5/09		SF,170												
	CP2-14B.1(375U, 4m) CP2-14B.2(600U, 18m)	2 days	Wed 13/5/09	100 days	Sun 17/5/09		SF,170 SF,171												
170		3 days	Fri 15/5/09	100 days			172												
171	CP2-14C.1(375U, 20m)	4 days	Mon 18/5/09	100 days	Thu 21/5/09		1/2												
172 173	CP2-12.1(375U, 34m)	6 days	Fri 22/5/09 Sun 17/5/09	115 days	Wed 27/5/09 Wed 20/5/09		SF,174												
173	CP2-19C.2(450U,30m) CP2-19C.1(450U,20m)	4 days	Sun 17/5/09 Thu 21/5/09	116 days	Sun 24/5/09		SF,174 SF,175												
	· · · · · ·	4 days		•			SF,175												
175	Inlet 2-3.1(450U, 11m)	2 days	Mon 25/5/09	116 days	Tue 26/5/09		05 477												
176	CP2-19B.1(600U, 38m)	8 days	Sat 6/6/09	63 days	Sat 13/6/09		SF,177												
177	CP2-19A.2(450U, 26m)	4 days	Sun 14/6/09	63 days	Wed 17/6/09														
178	CP2-19A.1,(450U, 22m)	4 days	Thu 18/6/09	74 days	Sun 21/6/09		SF,179												
179	CP2-18.1(450U, 41m)	8 days	Mon 22/6/09	74 days	Mon 29/6/09		SF,184												
180	CP2-19.1(600U, 26m)	6 days	Thu 16/7/09	48 days	Tue 21/7/09		SF,181												
181	CP2-19.2(375U, 10m)	2 days	Wed 22/7/09	48 days	Thu 23/7/09		SF,182												
182	CP2-18A.1(375U,35m)	6 days	Fri 24/7/09	48 days	Wed 29/7/09		SF,183												
183	CP2-18A.2(450U,26m)	4 days	Thu 30/7/09	48 days	Sun 2/8/09		186SF days	S											
184	CP2-0.1(375U, 51m)	8 days	Tue 30/6/09	74 days	Tue 7/7/09		204						<u>.</u>						
185	Catchpit CP2-18A	127 days	Sat 9/5/09	7 days	Sun 13/9/09		224												
186 187	CP2-16A	4 days	Sun 26/7/09 Thu 18/6/09	52 days 90 days	Mon 22/6/09	182SF,183SF		-											
188	CP2-19	,	Sat 18/7/09	- 1		180SF,181SF													
189	CP2-19 CP2-19A	4 days	Sun 14/6/09	94 days		177SF,178SF													
190	CP2-19B	4 days		-	Sat 6/6/09														
190	CP2-19B CP2-19C	4 days	Tue 2/6/09	106 days		173SF,174SF													
191	CP2-19C CP2-14B	4 days	Sun 17/5/09 Mon 11/5/09	122 days 128 days		169SF,170SF													
192	CP2-14B CP2-8A	4 days	Sat 9/5/09	128 days	Wed 13/5/09														
193	CP2-0A	4 days	Mon 8/6/09	100 days		157SF,158SF													
194	CP2-7 CP2-6	4 days	Tue 25/8/09	22 days		163SF,164SF				22 45.45]								
195	CP2-0 CP2-7A	4 days	Fri 26/6/09	82 days		159SF,160SF				22 days	-71								
196	CP2-7A CP2-5	4 days	Wed 9/9/09	7 days		165SF,166SF						7							
197	CP2-5A	4 days	Sat 4/7/09	7 days	Wed 8/7/09							7 days							
199	New retaining wall near abondoned home	20 days	Thu 18/6/09	63 days	Tue 7/7/09		224,240												
	New Retaining wall near Ramp No.1	30 days	Fri 1/5/09		Sat 30/5/09		201												
200			Sun 14/6/09	14 days		200,207SS+10 days	231												
	Laying Sub-base to Road B (Ch800 to Ch1145 only, Total Panel number =34)	30 days	Juli 14/0/09	0 days	WIOH 13/7/09	200,20100 10 days													
202	Concreting Road B (Ch800 to Ch1145 only, Total Panel number =34)	40 days	Tue 11/8/09	0 days	Sat 19/9/09	231	224		days 🏻										
203	Filling platform	883 days	Fri 30/3/07	82 days	Fri 28/8/09														
204	North Bank	118 days	Tue 7/4/09	0 days	Sun 2/8/09						T								
205	Bay 84c-Bay 80	40 days	Tue 7/4/09	48 days	Sat 16/5/09		73,216												
206	Bay 79-Bay 76	20 days	Sat 6/6/09	48 days	Thu 25/6/09		217												
207	Bay 56a1-Bay 71	60 days	Thu 4/6/09	0 days	Sun 2/8/09														
				-							1 1	:			:				
Project: Three-m	onth Rolled Program (Aug - Oct 2009)		Progress	s ===		Summary	Extern	nal Tasks		Deadline									
Date: Mon 31/8/0	Split		Mileston	ne		Project Summary	Exter	nal Milestone		Critical									
	L					Page 4/7													
						r age 4/1													

) _	Task Name	Duration	Start	Finish Predecessors Successors Aug '09 Sep '09 Oct '09 Nov '0
0			Total Slack	26 2 9 16 23 30 6 13 20 27 4 11 18 25 1
8	Bay 54-Bay 52	12 days	Tue 7/4/09 0 days	Sat 18/4/09 209 209 210
9	Bay 51-Bay 49	12 days	Sun 19/4/09 0 days	Thu 30/4/09 208 210
0	Bay 48-Bay 46	12 days	Fri 1/5/09 0 days	Tue 12/5/09 209 156,211
1	Bay 45-Bay 43	12 days	Wed 13/5/09 0 days	Sun 24/5/09 210 212
2	Bay 42-Bay 40	12 days	Mon 25/5/09 0 days	Fri 5/6/09 211 157,158,213
3	Bay 39-Bay 37	12 days	Sat 6/6/09 0 days	Wed 17/6/09 212 159,214
4	Bay 36-Bay 33	12 days	Thu 18/6/09 0 days	Mon 29/6/09 213 160,161,219
5	South Bank	883 days	Fri 30/3/07 82 days	Fri 28/8/09
6	Bay 84c- Bay 80	20 days	Sun 17/5/09 48 days	Fri 5/6/09 205 176,206
7	Bay 80-Bay 76	20 days	Fri 26/6/09 48 days	Wed 15/7/09 206 180
8	Bay 56a1-Bay 71	51 days	Sun 5/4/09 9 days	Mon 25/5/09 207,238
9	Bay 48-Bay 46	15 days	Tue 30/6/09 0 days	Tue 14/7/09 214 220
:0	Bay 45-Bay 43	15 days	Wed 15/7/09 0 days	Wed 29/7/09 219 162,221 162,22
11	Bay 42-Bay 40	15 days	Thu 30/7/09 0 days	Thu 13/8/09 220 163,222 days days 163,222 days
2	Bay 39-Bay 37	15 days	Fri 14/8/09 0 days	Fri 28/8/09 221 164 0 days 164 1
:3	Bay 36-Bay 33	15 days	Fri 30/3/07 950 days	Fri 13/4/07
14	Completion of Portion 3	0 days	Sat 19/9/09 0 days	Sat 19/9/09 154,185,199,228,229 19/9
.5				
16	Planting Trees	130 days	Wed 13/5/09 0 days	Sat 19/9/09
7	Bay 2-Bay 9, North Bank, 48 trees	24 days	Fri 7/8/09 20 days	Sun 30/8/09 65FS+14 days 230SF,113,369 20 days
18	Bay 41-Bay 42, North Bank, 7 trees	3 days	Sun 14/6/09 95 days	Tue 16/6/09 158 224
9	Bay 54& Bay 55d, North Bank, 13 trees	7 days	Wed 13/5/09 123 days	Tue 19/5/09 168 224
10	Bay 56c1, North Bank, 8 trees	4 days	Mon 3/8/09 44 days	Fri 7/8/09 227SF 224 44 days
1	Bay 64-Bay 72b, North Bank, 56 trees	28 days	Tue 14/7/09 0 days	Mon 10/8/09 201 224,367,202
2	Buy 64 Buy 725, North Built, 66 trees	20 days	1 de 14/7/00 0 days	mon totale 201 222-totale 1
3	Bay 7-Bay 27, South Bank, 40 trees	20 days	Fri 7/8/09 24 days	Wed 26/8/09 99,69 113 24 days
		-	•	
4	Bay 30-Bay 33, South Bank, 17 trees	9 days	Fri 7/8/09 35 days	Sat 15/8/09 67,69 113 35 days Tue 25/8/09 162 224 25 days
5	Bay 40-Bay 53, South Bank, 38 trees	19 days	Fri 7/8/09 25 days	
6	Bay 56a2, South Bank, 42 trees	21 days	Mon 15/6/09 50 days	Sun 5/7/09 224,237
57	Bay 57-Bay 66a, South Bank, 52 trees	26 days	Mon 6/7/09 50 days	Fri 31/7/09 236 224
8	Bay 68c-Bay 72a, South Bank, 26 trees	13 days	Tue 26/5/09 104 days	Sun 7/6/09 218 224
9	Bay 74-Bay 78, South Bank, 13 trees	7 days	Sun 13/9/09 0 days	Sat 19/9/09 146 224 0 days
0	Bay 79-Bay 83c, South Bank, 22 trees	11 days	Wed 8/7/09 63 days	Sat 18/7/09 199 224
1				
2				
-3	Section II of the Works	905 days	Fri 30/3/07 60 days	Sat 19/9/09
4	Kam Sheung Road Upstream	905 days	Fri 30/3/07 60 days	Sat 19/9/09
5	Construction of Gabion at Bay 56 -Bay 62	26 days	Sat 28/3/09 111 days	Wed 22/4/09 247
6	Pump Stream from Bay 49 to Bay 46	0 days	Thu 23/4/09 8 days	Thu 23/4/09 254,273,274,247
.7	Construrction of Gabion at Bay 49	5 days	Thu 23/4/09 111 days	Mon 27/4/09 245,246 248
8	Inspecion of New channel Bay 49- Bay 63 by DSD	14 days	Tue 28/4/09 111 days	Mon 11/5/09 247 249
.9	Divert Stream to New Channel	0 days	Mon 11/5/09 111 days	Mon 11/5/09 248 276
i0	Drainage Works	833 days	Fri 30/3/07 50 days	Thu 9/7/09
1	CP Inlet 15-4	8 days	Fri 30/3/07 717 days	Fri 6/4/07 252
2	MH15 F	25 days	Tue 24/3/09 0 days	Fri 17/4/09 251 253
3	MH15 E	13 days	Sat 18/4/09 0 days	Thu 30/4/09 252,272 254
4	CP15-8A	12 days	Fri 1/5/09 0 days	Tue 12/5/09 246,253 255,263,262
5	Outlet 15-3	12 days	Wed 13/5/09 0 days	Sun 24/5/09 254 256
6	CP15-5	8 days	Mon 25/5/09 0 days	Mon 1/6/09 255 257,264,265
7	Inlet 15-3	10 days	Tue 2/6/09 0 days	Thu 11/6/09 256 258
i8	MH15 C	10 days	Fri 12/6/09 0 days	Sun 21/6/09 257 6,278,282FS+7 days
i9	CP15-7	9 days	Mon 22/6/09 50 days	Tue 30/6/09 258 260,266
60	CP15-6	9 days	Wed 1/7/09 50 days	Thu 9/7/09 259 9,268,286FS+7 days
1	U-channel	80 days	Wed 13/5/09 110 days	Fri 31/7/09
2	CP15-8A.2	15 days	Wed 13/5/09 175 days	Wed 27/5/09 254,272
3	CP15-8A.1		Wed 13/5/09 175 days Wed 13/5/09 182 days	Wed 2//3/09 254,272
, l	CP15-8A.1	8 days		
1	UF 10-0.2	5 days	Tue 2/6/09 165 days	Sat 6/6/09 256,273
4		2 :	Tue 0/0/00 107 1	
5	CP15-5.1	3 days	Tue 2/6/09 167 days	Thu 4/6/09 256,273
55	CP15-5.1	3 days		
ect: Three-mo	CP15-5.1 onth Rolled Program (Aug - Oct 2009) Task	3 days	Progress	Summary External Tasks Deadline
5	CP15-5.1 onth Rolled Program (Aug - Oct 2009) Task	3 days		

)	Task Name	Duration	Start	Finish Predecessors Successors Aug '09 Sep '09 Oct '09 Nov '0
0	CP15-7.2		Total Slack	26 2 9 16 23 30 6 13 20 27 4 11 18 25 1
7	CP15-7.2 CP15-7.1	4 days	Thu 2/7/09 121 days Mon 6/7/09 121 days	Sun 5/7/09 259,276 267 Mon 20/7/09 266
8	CP15-7.1	15 days	Sun 12/7/09 110 days	Sun 26/7/09 260,277 269]
9	CP15-6.1	5 days	Mon 27/7/09 110 days	Fri 31/7/09 260,268
0	Backfilling	835 days	Fri 30/3/07 70 days	Sat 11/7/09
1	North Bank	795 days	Fri 30/3/07 20 days	Mon 1/6/09
2	Bay 49-Bay 56	14 days	Fri 30/3/07 736 days	Thu 12/4/07 253,262,273
3	Bay 44-48	18 days	Thu 23/4/09 20 days	Sun 10/5/09 246,272 263,264,265,274,278
4	Bay 37-Bay 43		Mon 11/5/09 20 days	Mon 1/6/09 246,273 278
5		22 days		
6	South Bank	20 days	Mon 22/6/09 70 days	Sat 11/7/09 Wed 1/7/09 249,258 266,277
	Bay 55- Bay 58	10 days	Mon 22/6/09 70 days	
7	Bay 47a - Bay 54	10 days	Thu 2/7/09 70 days	Sat 11/7/09 276 268,343 Sat 19/9/09 258,273,274 343 343 343 344 345 34
	Road Construction(Panel Nos. RD2 - RD15C)	90 days	Mon 22/6/09 0 days	
9	Diversion of CLP's cable on Kam Sheung Road	0 days	Wed 15/7/09 5 days	Wed 15/7/09 280
0	Road Construction on Kam Sheung Road	62 days	Wed 15/7/09 5 days	Mon 14/9/09 279 343
1	Planting of Trees	61 days	Mon 1/6/09 50 days	Fri 31/7/09
2	Bay 38 - Bay 43, North Bank, 28 trees	14 days	Mon 29/6/09 32 days	Sun 12/7/09 258FS+7 days 283
3	Bay 47b - Bay 55, North Bank, 26 trees	13 days	Mon 13/7/09 32 days	Sat 25/7/09 282 343,368
4	Bay 55 - Bay 58, North Bank, 20 trees	10 days	Wed 22/7/09 50 days	Fri 31/7/09 286 343
5	Bay 37 - Bay 42b, South Bank, 19 trees	10 days	Mon 1/6/09 101 days	Wed 10/6/09 343 343 344 345 347 347 347 347 347 347 347 347 347 347
6	Bay 50 - Bay 55, South Bank, 10 trees	5 days	Fri 17/7/09 50 days	Tue 21/7/09 260FS+7 days 284
7			E 100'0'0	
8	Kam Sheung Road Dowstream	905 days	Fri 30/3/07 60 days	Sat 19/9/09
9 1	Completion of Kam Po Road	15 days	Wed 20/5/09 0 days	Wed 3/6/09 293 312FF,290,207
0	Removal of Temporary Access	10 days	Thu 4/6/09 4 days	Sat 13/6/09 289 320,312
1	Construction of Bay 6	15 days	Sun 12/7/09 23 days	Sun 26/7/09 332,326,321 333
2	Construction of Gabion at Bay 6, 7 & 8	25 days	Mon 3/8/09 23 days	Thu 27/8/09 333 343 23 days
3	Completion of Bay 1	0 days	Tue 31/3/09 50 days	Tue 31/3/09 289,301
4	North Bank	897 days	Fri 30/3/07 68 days	Fri 11/9/09
5	Drainage Works	103 days	Tue 31/3/09 4 days	Sat 11/7/09
6	CP15-2	7 days	Fri 12/6/09 0 days	Thu 18/6/09 350 297,309
7	CP15-2A	7 days	Fri 19/6/09 0 days	Thu 25/6/09 296 305,303,309
8	MH15 B	8 days	Fri 15/5/09 0 days	Fri 22/5/09 351
9	CP15-1	7 days	Thu 2/7/09 7 days	Wed 8/7/09 312 307
0	CP15-01 & CP15-0	10 days	Thu 2/7/09 4 days	Sat 11/7/09 312 307,338 307,338 307,338 307,338 307,338 307,338 307,338 307,338 307,338 307,338 307,338 307,338
1	MH15-H	16 days	Tue 31/3/09 59 days	Wed 15/4/09 293 312,313 312,313 312,313 312,313 312,313 312,313 312,313 312,313 312,313 312,313 312,313 312,313
2	U-channel and forming slope	68 days	Mon 6/7/09 0 days	Fri 11/9/09
3	CP15-2.1	4 days	Mon 6/7/09 0 days	Thu 9/7/09 297,309 304 340,005
4	CP15-2.2 CP15-2A.1	14 days	Fri 10/7/09 0 days	Thu 23/7/09 303 310,305
5		3 days	Thu 13/8/09 7 days	Sat 15/8/09 297,304,310 306 7 days
7	CP15-2A.2 CP15-1.1	20 days	Sun 23/8/09 0 days	Fri 11/9/09 305,311 339 0 days
		20 days	Sun 12/7/09 4 days	
9	Backfilling	70 days	Sun 14/6/09 0 days	Sat 22/8/09 Sun 5/7/09 296,297 303,338
0	Bay 7-Bay 11	10 days	Fri 26/6/09 0 days	
	Bay 12 - Bay 18	20 days	Fri 24/7/09 0 days	
2	Bay 1 9- Bay 27	10 days	Thu 13/8/09 0 days	Sat 22/8/09 310 306 0 days Wed 1/7/09 289FF,290,301 299,300,343
3	Bay 1- Bay 6	18 days	Sun 14/6/09 4 days	Wed 1/7/09 289FF,290,301 299,300,343 Tue 1/9/09 301,307 338,343 days
4	Road Construction (Panel RE1 to RE4)	32 days	Sat 1/8/09 4 days Fri 30/3/07 943 days	Fri 20/4/07
5	Construction of Gabion (Bay 6-Bay 8) South Bank	22 days		Sat 22/8/09
6		877 days		Sat 22/8/09 Sat 22/8/09
7	Drainage Works Inlet 15-1	877 days	Fri 30/3/07 88 days Thu 26/3/09 231 days	Sat 22/8/09 Wed 1/4/09 346
3	CP15-3B	7 days		
9	CP15-3B	7 days	-	
		7 days	Fri 30/3/07 837 days	
0	Inlet 15-B	14 days	Sun 14/6/09 23 days	Sat 27/6/09 290 332,321
1	Outlet 15-A	7 days	Sun 28/6/09 30 days	Sat 4/7/09 320 291
/	U-channel and Forming Slope	92 days	Fri 10/4/09 102 days Fri 10/4/09 188 days	Fri 10/7/09
2				Thu 14/5/09 328
	CP15-3B.1	35 days	Fri 10/4/09 188 days	
В	Took	35 days	-	
ct: Three-m	month Rolled Program (Aug - Oct 2009)	35 days	Progress	Summary External Tasks Deadline
t: Three-m	month Rolled Program (Aug - Oct 2009)	35 days	-	

PROGRAMME OF WORKS - RP26

ID _	Task Name	Duration	Start		Finish	Predecessors	Successors		Aug '09				Sep '0	19			Oct '09			Nov '09
324	CP15 3 2/1st contion\	14 dovo	Sat 13/6/09	Total Slack 131 days	Fri 26/6/09	326	325	26		9	16	23	30	6	13	20	27 4	11	18 25	1
324	CP15-3.2(1st section)	14 days					325	-												
325 326	CP15-3.2(Remaing section CP15-3.1	14 days	Sat 27/6/09 Sat 30/5/09	131 days 52 days	Fri 10/7/09	319,331,335	291,341,324													
327	Backfilling	-			Sun 2/8/09		291,341,324													
	Bay 16b - Bay 23	135 days 20 days	Sat 21/3/09 Sat 21/3/09	0 days	Thu 9/4/09		323,329,335													
328	-	-	Fri 10/4/09	0 days	Wed 29/4/09		325,329,335													
	Bay 24 - Bay 31	20 days	Sat 21/3/09	0 days	Mon 30/3/09		352,335] []												
330 331 331	Bay 32 - Bay 35	10 days		30 days	Tue 14/4/09		332,333													
331 111	Bay 7 - Bay 16a Bay 3 - Bay 5	25 days	Sat 21/3/09 Sun 28/6/09	97 days 23 days	Sat 11/7/09		291,340	.												
333	Bay 6	14 days	Mon 27/7/09	23 days	Sun 2/8/09		291,340	↓												
	Бау 0	7 days	WOTI 27/7/09	23 days	Sull 2/6/08	7 291	292		- -											
334	Loid Cu hoop Material from Day 20 to Day 25	20 days	Thu 20/4/00	O dovo	Fr: 20/5/00	220 220 220	355,326													
335 336	Laid Su-base Material from Bay 20 to Bay 35	30 days	Thu 30/4/09 Fri 17/7/09	0 days 13 days	Sat 15/8/09	328,329,330	318													
	Constructing Road Pavement Bay 20- Bay 26	30 days					310									-				
37	Planting Trees	70 days	Sun 12/7/09	0 days	Sat 19/9/09		242						####							
338	Bay 2 - Bay 9, North Bank, 29 trees	14 days	Wed 2/9/09	4 days		313,309,300	343					4 day	ys			,				
	Bay 13 - Bay 18, North Bank, 16 trees and 25 bamboo	8 days	Sat 12/9/09	0 days	Sat 19/9/09		343							0 days		Ħ				
340	Bay 2 - Bay 6, South Bank, 35 trees	18 days	Sun 12/7/09	52 days	Wed 29/7/09 Mon 20/7/09		343													
341	Bay 10 - Bay 11, South Bank, 8 trees and 18 bamboo Bay 18 - Bay 26, South Bank, 29 trees	4 days	Fri 17/7/09 Sun 23/8/09	61 days	Sun 6/9/09		343				40 45	7								
342		15 days		13 days							13 days				 	100				
343 111	Completion of Portion 5	0 days	Sat 19/9/09	0 days	Sat 19/9/08	9 277,278,313,312,280	368FF+30 days	-								19/9				
345	Continue III of the Works - Doutinue FAA FAO	116 days	Mon 23/3/09	61 days	Thu 16/7/09	1		-												
,,,,	Section III of the Works - Portions 5A1, 5A2	110 days	MON 23/3/03	or days	1110 10/7/03															
346	Laying cable duct by PCCW's & HGC's Work at Kam Sheung Roa	3 days	Mon 23/3/09	85 days	Wed 25/3/09)	317,347	-												
347	Diversion of HGC's cables(by HGC) at Kam Sheung Road	0 days	Sat 30/5/09	20 days	Sat 30/5/09		348	-												
348	Concrete Surround to PCCW's cable ducts (By PCCW) at Kam St	7 days	Fri 19/6/09	0 days	Thu 25/6/09		356	-												
349	Drainage Works	73 days	Tue 31/3/09	53 days	Thu 11/6/09			-												
350	Outlet 15-2	10 days	Tue 2/6/09	0 days	Thu 11/6/09		296	-												
351	Inlet 15-2	10 days	Sat 23/5/09	0 days	Mon 1/6/09		354,350													
352	CP15-4A.1	10 days	Tue 31/3/09	223 days	Thu 9/4/09															
353		, .		, .																
354	Backfilling at Bay 28-Bay 35	18 days	Tue 2/6/09	0 days	Fri 19/6/09	351	358													
355	Constructing Road Pavement Bay 27- Bay 34	20 days	Sat 30/5/09	0 days	Thu 18/6/09		359,361,348													
356	Constructing Road Pavement Bay 35	21 days	Fri 26/6/09	0 days	Thu 16/7/09		336,361,341													
357	Planting Trees	27 days	Sat 20/6/09	0 days	Thu 16/7/09															
358	Bay 23 - Bay 35, North Bank, 36 trees	18 days	Sat 20/6/09	0 days	Tue 7/7/09		359													
359	Bay 27 - Bay 35 , South Bank, 17 trees	9 days	Wed 8/7/09	0 days	Thu 16/7/09		361													
360	, , , , , , , , , , , , , , , , , , , ,	, .																		
361	Completion of Portion 5A1, 5A2 & 5B	0 days	Thu 16/7/09	0 days	Thu 16/7/09	356,355,359														
362		,		*				1												
363	Section V of the Works - Preservation and protection to existing trees	905 days	Fri 30/3/07	72 days	Sat 19/9/09				1											
364																I				
365	Construction of Hard Paved Area above box cuvlert at South Bank	30 days	Sat 5/9/09	15 days	Sun 4/10/09	0 105,112	366					1	5 days	<u> </u>						
366	Erection of Fencing near Hard Paved Area		Mon 5/10/09		Tue 3/11/09	365											45 days			
367	-	30 days		15 days	Wed 18/11/09					<u> </u>							15 days			
368	Erection of Fencing along Channel KT15	100 days	Tue 11/8/09	0 days				<u> </u>	0 days	§ ####################################			444							
I	Erection of Fencing along Channel KT15	84 days	Tue 28/7/09	30 days		283,343FF+30 days		S						40 :	<u> </u>					
369	Construction of Hard Paved Area above box cuvlert at North Bank	30 days	Sun 13/9/09	49 days	Mon 12/10/09	103,05,22/								49 days						



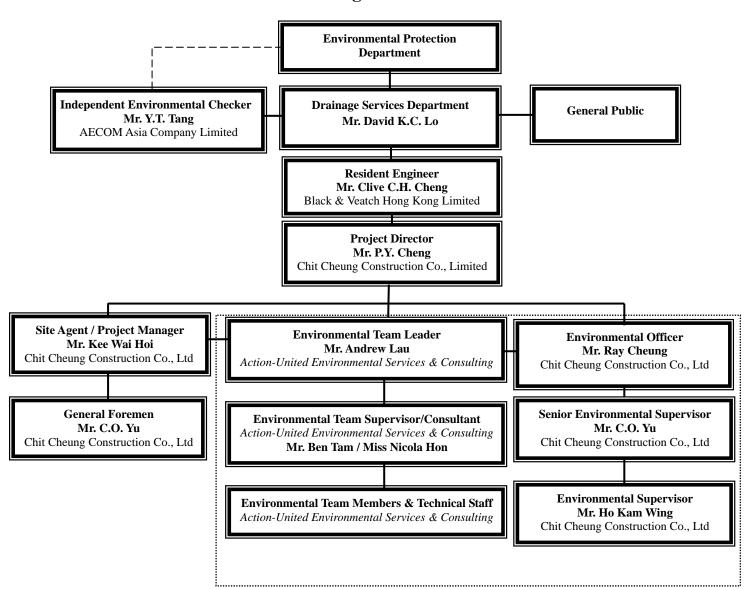


APPENDIX C

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
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 Yu	6086-4658	2479-1365
AUES	Environmental Team Leader	Mr. Andrew Lau	2959-6059	2959-6079
AUES	Ecologist	Mr. Vincent Lai	9406-9784	2959-6079

Legend:

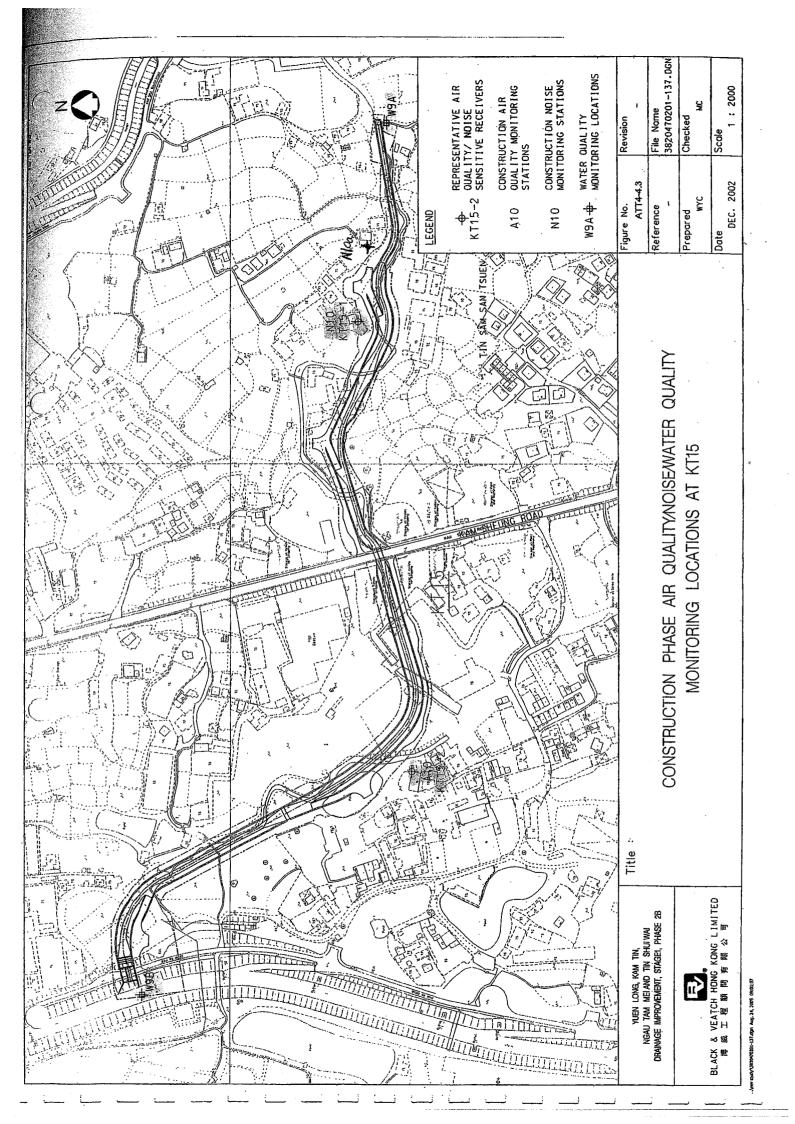
DSD (Employer) B&V (Engineer) Drainage Services Department Black & Veatch Hong Kong Limited Chit Cheung Construction Company Limited. ENSR Asia (HK) Ltd. CCC (Contractor) ENSR (IEC) AUES (ET)

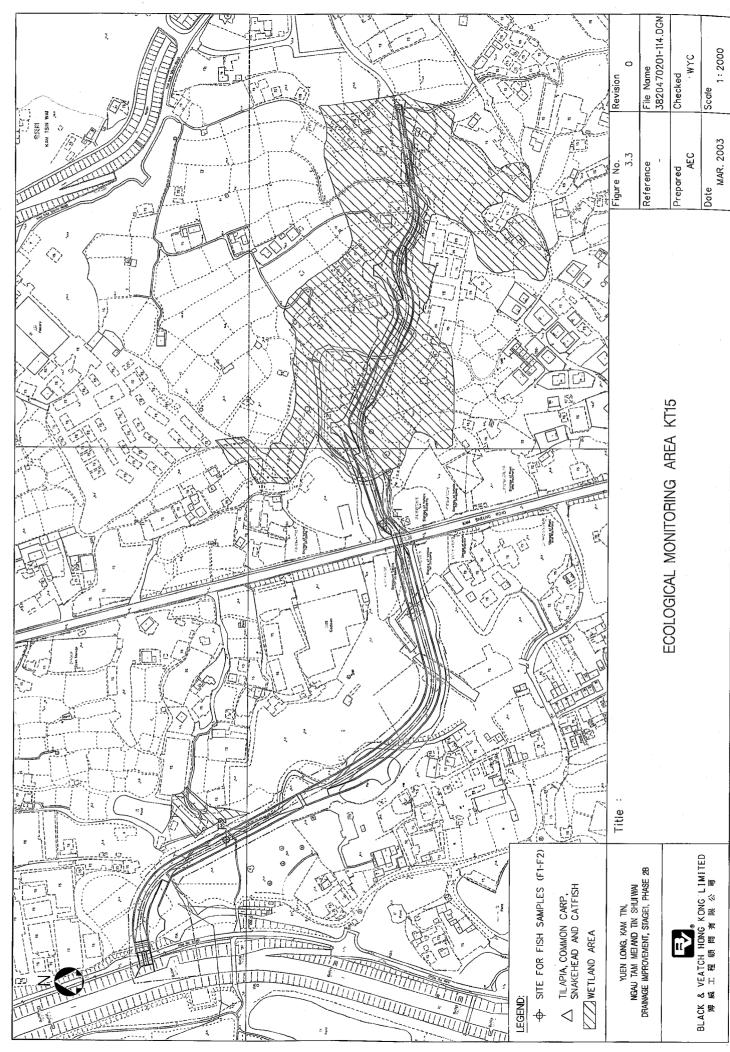
Action-United Environmental Services & Consulting



APPENDIX D

LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA





-\env study3820470201-114.dgn Aug. 24, 2005 09:03:48



APPENDIX E

EVENT/ACTION PLAN FOR AIR QUALITY, CONSTRUCTION NOISE, STREAM WATER QUALITY AND ECOLOGY



Event/Action Plan for Air Quality

ENZENIO	ACTION			
EVENT	ET	IEC	Engineer	Contractor
ACTION LEVEL				
Exeedance for one sample	Identify source Inform IEC and Engineer Repeat measurement to confirm finding Increase monitoring frequency to daily	Check monitoring data submitted by ET Check Contractor's working method	Notify Contractor	Rectify any unacceptable practice Amend working methods if appropriate
Execdance for two or more consecutive samples	Identify source Inform IEC and Engineer Repeat measurements to confirm findings Increase monitoring frequency to daily Discuss with IEC and Contractor on remedial actions required If exceedance continues, arrange meeting with IEC and Engineer 7. If exceedance stops, cease additional monitoring	Check monitoring data submitted by ET Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advice Engineer on the effectiveness of the proposed remedial measures Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Ensure remedial measures properly implemented	Submit proposals for remedial actions to IEC within 3 working days of notification Implement the agreed proposals Amend proposal if appropriate
LIMIT LEVEL				
Exeedance for one sample	Identify source Inform Engineer and EPD Repeat measurement to confirm finding Increase monitoring frequency to daily Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results	Check monitoring data submitted by ET Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advice Engineer on the effectiveness of the proposed remedial measures Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Ensure remedial measures properly implemented	Take immediate action to avoid further exceedance Submit proposals for remedial actions to IEC within 3 working days of notification Implement the agreed proposals Amend proposal if appropriate
Exceedance for two or more consecutive samples	1. Notify IEC, Engineer and EPD 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with IEC and Engineer to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results 8. If exceedance stops, cease additional monitoring	Discuss amongst Engineer, ET and Contractor on potential remedial actions Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented 4. Discuss amongst Environmental Team Leader and the Contractor potential remedial actions 5. Ensure remedial measures properly implemented 6. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the Engineer until the exceedance is abated



Event/Action Plan for Construction Noise

EVENT		ACTION		
EVENT	ET Leader	IEC	Engineer	Contractor
ACTION LEVEL	Notify Contractor and Engineer Carry out investigation Report the results of investigation to the IEC and Contractor Discuss with the Contractor and formulate remedial measures Increase monitoring frequency to check mitigation effectiveness	Review the analysed results submitted by ET Review the proposed remedial measures by the Contractor and advice the Engineer accordingly Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Require Contractor to propose remedial measures for the analysed noise problem Ensure remedial measures properly implemented	Submit noise mitigation proposals for remedial actions to IEC Implement the agreed proposals
LIMIT LEVEL	Notify IEC, Engineer, EPD and Contractor Identify source Repeat measurement to confirm findings Increase monitoring frequency Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented Inform IEC, Engineer and EPD the causes & actions taken for the exceedances Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results If exceedance stops, cease additional monitoring	Discuss amongst Engineer, ET and Contractor on potential remedial actions Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Require Contractor to propose remedial measures for the analysed noise problem Ensure remedial measures properly implemented If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	Take immediate action to avoid further exceedance Submit proposals for remedial actions to IEC within 3 working days of notification Implement the agreed proposals Resubmit proposals if problem still not under control Stop the relevant portion of works as determined by the Engineer until the exceedance is abated



Event and Action Plan for Stream Water Quality

Event	ET Leader	iEC Stream	Engineer	Contractor
	Repeat in-situ measurement to	Discuss with ET and	Discuss with IEC on the	Inform Engineer and
ACTION LEVEL (being exceeded by one sampling day)	confirm findings 2. Identify source(s) of impact 3. Inform IEC and Contractor 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures IEC and Contractor 6. Repeat measurement on next day of exceedance	Contractor on the mitigation measures 2. Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly 3. Assess the effectiveness of the implemented mitigation measures	proposed mitigation measures 2. Make agreement on the mitigation measures to be implemented	confirm notification of the non-compliance in writing 2. Rectify unacceptable practice 3. Check all plant and equipment 4. Consider changes of working methods 5. Discuss with ET and Contractor and propose mitigation measures to IEC and Engineer 6. Implement the agreed mitigation measures
ACTION LEVEL (being exceeded by more than one sampling day)	Repeat in-situ measurement to confirm findings Identify source(s) of impact Inform IEC, Contractor and EPD Check monitoring data, all plant, equipment and Contractor's working methods Discuss mitigation measures IEC, Engineer and Contractor Repeat measurement on next day of exceedance Ensure mitigation measures are implemented Prepare to increase the monitoring frequency to daily Repeat measurement on next day of exceedance	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly Assess the effectiveness of the implemented mitigation measures	Discuss with IEC on the proposed mitigation measures Make agreement on the mitigation measures to be implemented Assess the effectiveness of the implemented mitigation measures	Inform Engineer and confirm notification of the non-compliance in writing Rectify unacceptable practice Check all plant and equipment Consider changes of working methods Discuss with ET and IEC and propose mitigation measures to IEC and Engineer within 3 working days Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by one sampling days)	Repeat in-situ measurement to confirm findings Identify source(s) of impact Inform IEC, Contractor and EPD Check monitoring data, all plant, equipment and Contractor's working methods Discuss mitigation measures IEC, Engineer and Contractor Ensure mitigation measures are implemented Increase the monitoring frequency to daily until no exceedance of Limit level	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly Assess the effectiveness of the implemented mitigation measures	Discuss with IEC, ET and Contractor on the proposed mitigation measures Request Contractor to critically review the working methods Make agreement on the mitigation measures to be implemented Assess the effectiveness of the implemented mitigation measures	Inform Engineer and confirm notification of the non-compliance in writing Rectify unacceptable practice Check all plant and equipment Consider changes of working methods Discuss with ET, IEC and Engineer and propose mitigation measures to IEC and Engineer within 3 working days Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by more than one sampling days)	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform Contractor, Engineer, IEC and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, Engineer and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly Assess the effectiveness of the implemented mitigation measures	Discuss with IEC, ET and Contractor on the proposed mitigation measures Request Contractor to critically review the working methods Make agreement on the mitigation measures to be implemented Assess the effectiveness of the implemented mitigation measures Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until daily until no exceedance of Limit level	Inform Engineer and confirm notification of the non-compliance in writing Rectify unacceptable practice Check all plant and equipment Consider changes of working methods Discuss with ET, IEC and Engineer and propose mitigation measures to IEC and Engineer within 3 working days Propose mitigation measures to Engineer within 3 working days Implement the agreed mitigation measures; As directed by Engineer, to slow down or to stop all or part of the construction activities



Event/Action Plan for Ecology

Event	ET Leader	IEC	Engineer	Contractor
Fauna The total number of species or individuals of the surveyed wetland dependent faunal groups is reduced by 20-40% from baseline	Notify IEC and Contractor; Check the position and state of the current works to identify the causes; Discuss mitigation measures with IEC and Contractor	Discuss with ET and Contractor on the mitigation measures Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly Assess the effectiveness of the implemented mitigation measures	Discuss with IEC on the proposed mitigation measures; Reach agreement on the mitigation measures to be implemented	Inform Engineer and confirm notification of the non-compliance in writing Take immediate action to avoid further exceedances; Check all plant and equipment and working methods, especially noise emanating ones Discuss with ET and IEC and propose mitigation measures to IEC and Engineer Implement the agreed mitigation measures



APPENDIX F

EQUIPMENT CALIBRATION CERTIFICATES



Equipment Calibration List for Construction of 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 Project

Items	Aspect	Description of Equipment	Date of Calibration	Date of Next Calibration
1	Air	Tisch High Volume Sampler 515N (Serial No. 9833620)	7 Jul 09	7 Sep 09
2		TSI DuskTrak Model 8520 (21060)	30 Aug 08	30 Aug 09
3		TSI DuskTrak Model 8520 (23080)	30 Aug 08	30 Aug 09
4	Noise	Cesva CB-5 Acoustical Calibrator (Serial No. 030934)	28 Apr 09	28 Apr 10
5		Cesva SC-20c Sound Level Meter (Serial No. T212509)	28 Apr 09	28 Apr 10
6	Water	YSI 550A (Serial No. 05F2063AZ)	17 July 09	17 Oct 09
7*		Extech pH EC500 (Serial No.133298)	17 Jul 09	17 Oct 09
8*		Turbidimeter HACH 2100p (Serial No. 08070C31408) Turbidimeter HACH 2100p (Serial No. 95090008735)	4 May 09 3 Aug 09	4 Aug 09 3 Nov 09
9		Hand refractometer ATAGO (Serial No. 289468)	21 Jul 09	21 Oct 09

Note: * Calibration certificates will only be provided if monitoring equipment is re-calibrated or new.

CERTIFICATE OF ANALYSIS



Batch:

HK0915278

Date of Issue:

03/08/2009

Client:

ACTION UNITED ENVIRO SERVICES

Client Reference:

Calibration of Turbidity System

Item:

HACH Turbidimeter

Model No.:

HACH 2100P

Serial No.:

950900008735

Equipment No.:

EQ091

Calibration Method:

This meter was calibrated in accordance with standard method APHA (19th Ed.) 2130B

Date of Calibration:

03 August, 2009

Testing Results:

Expected Reading	Recording Reading
O OO NITH	0.40 NTH
0.00 NTU	0.10 NTU
4.00 NTU	3.86 NTU
16.0 NTU	15.0 NTU
80.0 NTU	76.4 NTU
160 NTU	149 NTU
Allowing Deviation	±10%

Mr Chan Kwok Fail Godfrey

Laboratory Manager Hong Kong

CERTIFICATE OF ANALYSIS



Batch:

HK0914216

Date of Issue:

21/07/2009

Client:

ACTION UNITED ENVIRO SERVICES

Client Reference:

Calibration of DO System

Item:

Extech pH / Conductivity / TDS meter

Model No. :

EC 500

Serial No.:

133298

Equipment No.:

- -

Calibration Method:

This meter was calibrated in accordance with standard method APHA (19th Ed.) 4500-H⁺B

Date of Calibration:

17 July, 2009

Testing Results:

Expected Reading	Recording Reading	
4.00	3.97	
7.00	6.97	
10.0	9.86	
Allowing Deviation	<u>+</u> 0.2	

Mr Chan Kwok Fai, Godfrey

Laboratory Manager - Hong Kong



APPENDIX G

IMPACT MONITORING SCHEDULES



Impact Monitoring Schedules in this Reporting Period

	Date	An Quanty		NOISE LEQ 30MIN	WATER QUALITY	ECOLOGY SURVEYS
		1-hour TSP	24-hour TSP			
	26-July-09					
	27-July-09					
	28-July-09					
	29-July-09					
	30-July-09					
Fri	31-July-09					
Sat	1-Aug-09					
Sun	2-Aug-09					
Mon	3-Aug-09					
Tue	4-Aug-09					
Wed	5-Aug-09					
Thu	6-Aug-09					
Fri	7-Aug-09					
Sat	8-Aug-09					
Sun	9-Aug-09					
Mon	10-Aug-09					
Tue	11-Aug-09					
Wed	12-Aug-09					
Thu	13-Aug-09					
Fri	14-Aug-09					
Sat	15-Aug-09					
Sun	16-Aug-09					
Mon	17-Aug-09					
Tue	18-Aug-09					
Wed	19-Aug-09					
	•					
Fri	21-Aug-09					
Sat	22-Aug-09					
Sun						
	24-Aug-09					

Monitoring Day
Sunday or Public Holiday



Impact Monitoring Schedules in the Next Reporting Period

	Date	Tin Quanty		NOISE LEQ 30MIN	WATER QUALITY	ECOLOGY SURVEYS
	_	1-hour TSP	24-hour TSP			
	26-Aug-09					
	27-Aug-09					
	28-Aug-09					
Sat	29-Aug-09					
	30-Aug-09					
Mon	31-Aug-09					
Tue						
Wed						
Thu						
Fri	4-Sep-09					
Sat						
Sun						
Mon	7-Sep-09					
Tue	8-Sep-09					
	9-Sep-09					
	10-Sep-09					
	11-Sep-09					
	12-Sep-09					
	13-Sep-09					
	14-Sep-09					
	15-Sep-09					
	16-Sep-09					
	17-Sep-09					
Fri	18-Sep-09					
	19-Sep-09					
	20-Sep-09					
	21-Sep-09					
	22-Sep-09					
	23-Sep-09					
	24-Sep-09					
Fri	25-Sep-09					

Monitoring Day
Sunday or Public Holiday

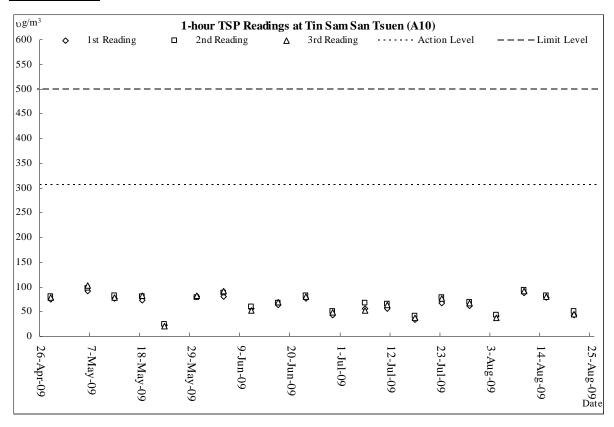


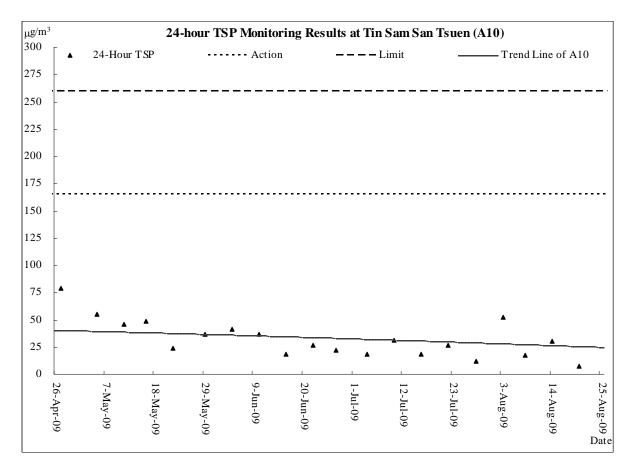
APPENDIX H

GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING RESULTS



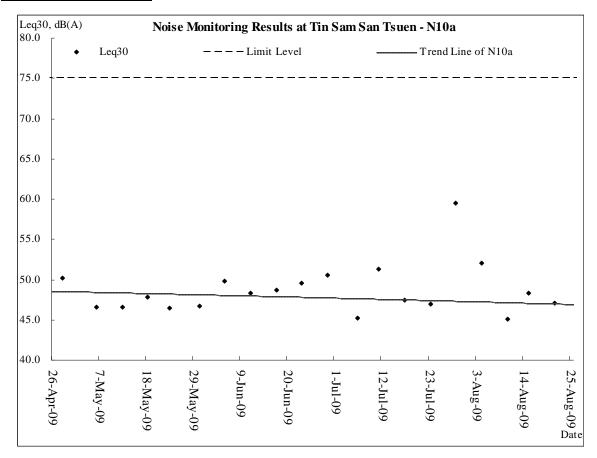
AIR QUALITY







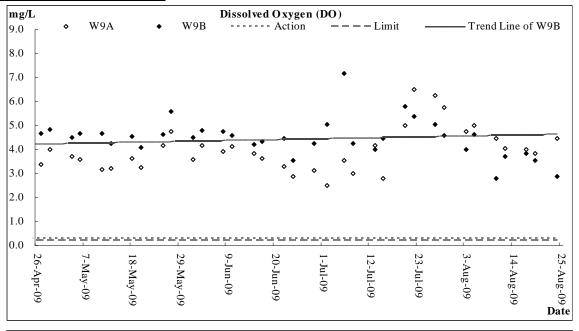
CONSTRUCTION NOISE

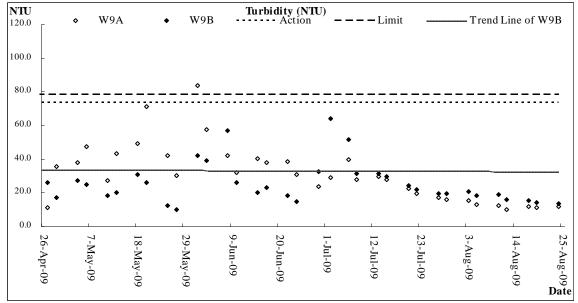


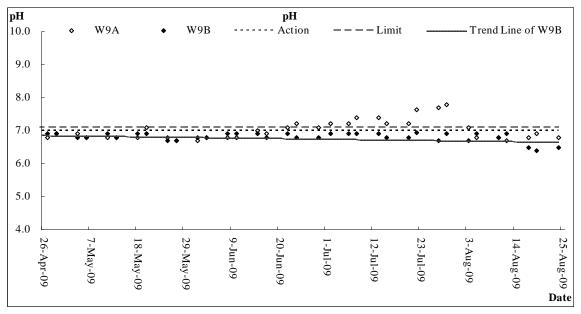
KT15 – Monthly EM&A Report for August 2009 (No. 26)



STREAM WATER QUALITY

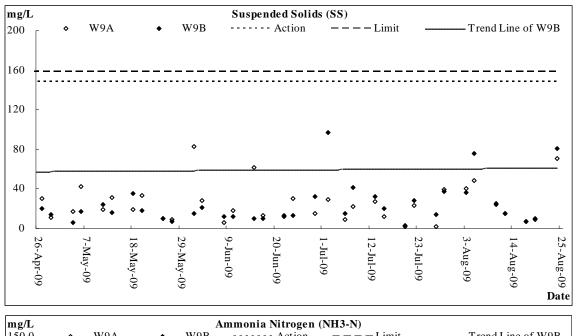


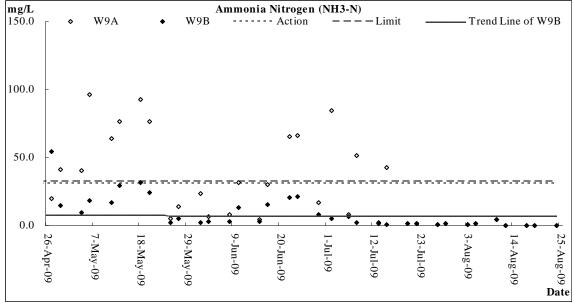


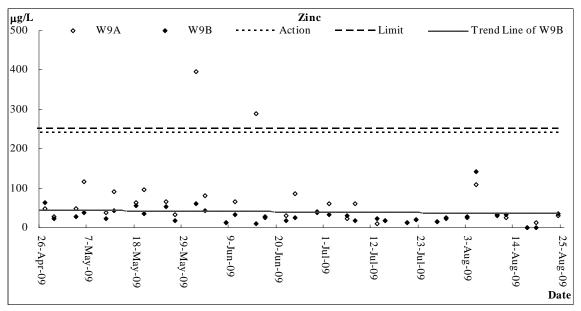




KT15 - Monthly EM&A Report for August 2009 (No. 26)









Date		27-Jul-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	2	Salinity		pН	SS	NH3-N	Zinc
W9A	14.15	0.10	30.4	20.4	6.3	6.06	83.0	92.9	17.4	17.2	0	0.0	7.70	7.70	2.0	0.7	16.0
W9A	14:15	0.10	30.4	30.4	6.22	6.26	82.5	82.8	17.2	17.3	0	0.0	7.70	7.70	2.0	0.7	16.0
WOD	14.05	0.00	30.6	20.6	5.06	5.04	67.8	(7.6	19.9	10.7	0	0.0	6.70	6.70	14.0	0.0	16.0
W9B	14:25	0.20	30.6	30.6	5.01	5.04	67.3	67.6	19.4	19.7	0	0.0	6.70	6.70	14.0	0.8	16.0

Date		29-Jul-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W9A	15.25	0.10	31.0	21.0	5.77	574	72.6	72.4	15.6	15 0	0	0.0	7.80	7.00	20.0	1.7	22.0
W9A	15:35	0.10	31.0	31.0	5.71	5.74	72.1	12.4	15.9	15.8	0	0.0	7.80	7.80	39.0	1.7	23.0
WOD	15.50	0.10	31.3	21.2	4.62	4.50	62.3	(2.0	20.2	10.0	0	0.0	6.90	6.00	27.0	1.77	25.0
W9B	15:50	0.10	31.3	31.3	4.56	4.59	61.6	62.0	19.5	19.9	0	0.0	6.90	6.90	37.0	1./	25.0

Date	,	3-Aug-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W9A	16,20	0.10	29.2	20.2	4.77	175	64.4	64.2	15.6	15 /	0	0.0	7.10	7.10	40.0	0.0	25.0
W9A	16:20	0.10	29.2	29.2	4.72	4.75	64.0	64.2	15.2	15.4	0	0.0	7.10	7.10	40.0	0.8	25.0
HIOD	16.10	0.20	29.4	20.4	4.02	4.00	49.9	40.7	20.9	21.0	0	0.0	6.70	6.70	26.0	0.7	27.0
W9B	16:10	0.20	29.4	29.4	3.98	4.00	49.5	49.7	21.0	21.0	0	0.0	6.70	6.70	36.0	0.7	27.0

Date		5-Aug-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
M/O A	16.20	0.10	27.7	27.7	5.01	5.00	68.9	69.7	13.4	12.2	0	0.0	6.80	6.90	40.0	1.6	100.0
W9A	16:30	0.10	27.7	27.7	4.98	5.00	68.4	68.7	13.2	13.3	0	0.0	6.80	6.80	48.0	1.6	108.0
MIOD	16.05	0.20	29.4	20.4	4.65	4.60	54.6	54.4	18.4	10.5	0	0.0	6.90	6.00	76.0	1.0	140.0
W9B	16:35	0.20	29.4	29.4	4.6	4.63	54.2	54.4	18.5	18.5	0	0.0	6.90	6.90	76.0	1.8	142.0



Date	1	0-Aug-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	2	Salinity		рH	SS	NH3-N	Zinc
W9A	15.20	0.20	28.6	20.6	4.5	4.47	60.3	60.0	12.4	10.4	0	0.0	6.80	6.90	24.0	4.7	21.0
W9A	15:30	0.20	28.6	28.6	4.44	4.47	60.0	60.2	12.3	12.4	0	0.0	6.80	6.80	24.0	4.7	31.0
MIOD	15.40	0.10	29.0	20.0	2.8	2.00	38.0	27.6	19.4	10.0	0	0.0	6.80	6.00	25.0	1.6	22.0
W9B	15:40	0.10	29.0	29.0	2.79	2.80	37.2	37.6	19.2	19.3	0	0.0	6.80	6.80	25.0	4.6	33.0

Date	1	2-Aug-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DO	OS (%)	Turbidi	ty (NTU)		Salinity		pН	SS	NH3-N	Zinc
WOA	16.15	0.20	26.9	26.0	4.07	1.05	54.8	511	10.3	10.4	0	0.0	6.70	6.70	15.0	0.1	26.0
W9A	16:15	0.30	26.9	26.9	4.03	4.05	54.0	54.4	10.4	10.4	0	0.0	6.70	6.70	15.0	0.1	26.0
HIOD	16.05	0.10	27.1	07.1	3.72	0.71	50.2	50.0	16.3	16.1	0	0.0	6.90	6.00	15.0	0.1	22.0
W9B	16:25	0.10	27.1	27.1	3.7	3.71	49.7	50.0	15.9	16.1	0	0.0	6.90	6.90	15.0	0.1	32.0

Date	1	.7-Aug-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
WOA	16.05	0.10	30.4	20.4	4.01	2.00	53.8	52.4	12.0	11.0	0	0.0	6.80	6.90	7.0	0.0	-10
W9A	16:25	0.10	30.4	30.4	3.97	3.99	53.0	53.4	11.6	11.8	0	0.0	6.80	6.80	7.0	0.0	<10
IVOD	16.05	0.10	30.6	20.6	3.87	2.04	52.3	50.0	15.6	15.5	0	0.0	6.50	6.50	7.0	0.0	10
W9B	16:35	0.10	30.6	30.6	3.8	3.84	52.0	52.2	15.3	15.5	0	0.0	6.50	6.50	7.0	0.0	<10

Date	1	9-Aug-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ty (NTU)	9	Salinity		pН	SS	NH3-N	Zinc
W9A	16.10	0.10	30.8	20.9	3.87	2.05	52.6	50.2	11.6	11.2	0	0.0	6.90	6.00	10.0	0.0	12.0
W9A	16:10	0.10	30.8	30.8	3.82	3.85	52.0	52.3	11.0	11.3	0	0.0	6.90	6.90	10.0	0.0	12.0
HIOD	16.00	0.10	30.6	20.6	3.59	2.56	49.7	40.4	14.6	144	0	0.0	6.40	6.40	0.0	0.0	10
W9B	16:20	0.10	30.6	30.6	3.53	3.56	49.0	49.4	14.1	14.4	0	0.0	6.40	6.40	9.0	0.0	<10



Date	2	24-Aug-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DO	OS (%)	Turbidi	ity (NTU)		Salinity		pН	SS	NH3-N	Zinc
WOA	15.40	0.10	30.2	20.2	4.5	4.40	61.3	(0.0	12.3	12.2	0	0.0	6.80	6.90	71.0	0.2	21.0
W9A	15:40	0.10	30.2	30.2	4.45	4.48	60.5	60.9	12.0	12.2	0	0.0	6.80	6.80	71.0	0.2	31.0
HIOD	15.50	0.20	30.9	20.0	2.9	2.00	39.0	20.0	14.0	12.0	0	0.0	6.50	6.50	01.0	0.0	25.0
W9B	15:50	0.20	30.9	30.9	2.85	2.88	38.6	38.8	13.8	13.9	0	0.0	6.50	6.50	81.0	0.2	35.0



KT15 – Monthly EM&A Report for August 2009 (No. 26)

APPENDIX I

METEOROLOGICAL DATA IN THE REPORTING PERIOD



KT15 – Monthly EM&A Report for August 2009 (No. 26)

Meteorological Data Extracted from Hong Kong Observatory in the Reporting Period

				Lau Fau	Shan V	Veather St	ation
Date	9	Weather	Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
26-Jul-09	Sun	cloudy/a few showers/moderate	24.1	30.6	15.7	75.2	S/SE
27-Jul-09	Mon	cloudy/a few showers/sunny	33.6	28.3	12.5	90	S/SE
28-Jul-09	Tue	cloudy/showers/squally thunderstorm/moderate	10.2	29.2	13.5	85.5	S/SE
29-Jul-09	Wed	cloudy/a few showers/sunny	2.4	29	13.2	84	S/SE
30-Jul-09	Thu	cloudy/showers/squally thunderstorms/moderate/fresh	14	29.3	13.5	81	S/SE
31-Jul-09	Fri	fine/showers/moderate/fresh	8.7	29.8	18.5	77.5	E/SE
1-Aug-09	Sat	fine/very hot/showers/light winds	0	29.8	14	76	Е
2-Aug-09	Sun	sunny periods/showers/very	0	31.4	10.5	72.5	S/SE
3-Aug-09	Mon	sunny periods/very hot/a few	21.4	31.7	9.5	77	E/NE
4-Aug-09	Tue	strong/cloudy/rain/squalls	21.3	28.1	17.5	75.5	E/NE
5-Aug-09	Wed	cloudy/rain/squalls/moderate/fresh/strong	92.5	27	21	89.7	E/SE
6-Aug-09	Thu	cloudy/a few showers/squally	8.3	28.1	18.5	88.5	SE
7-Aug-09	Fri	fine/moderate	0	29.4	11	84.2	S/SE
8-Aug-09	Sat	very hot/fresh/moderate	0	30.2	14.5	82.3	S/SE
9-Aug-09	Sun	sunny periods/very hot/a few	0	30	12	79	W/SW
10-Aug-09	Mon	cloudy/showers/thunderstorms/light	21.8	29.5	9.5	82.5	W/SW
11-Aug-09	Tue	cloudy/rain/squally thunderstorm/light	32.2	27.7	17	84.5	S/SE
12-Aug-09	Wed	cloudy/rain/squally thunderstorm/light	3.1	26.7	16.2	88.5	E/SE
13-Aug-09	Thu	cloudy/rain/squally	70.7	26.2	8.2	93.5	S/SE
14-Aug-09	Fri	cloudy/a few showers/sunny	44.9	28.2	10.5	86.5	S/SE
15-Aug-09	Sat	hot/sunny periods/a few	0	28.7	11	85.5	S/SE
16-Aug-09	Sun	sunny periods/a few	0	30.2	15.7	78	W/NW
17-Aug-09	Mon	cloudy/showers/squally	2	29.4	8	76.5	S/SE
18-Aug-09		fine/hot/isolated	12.7	28.6	11.5	77	E/NE
19-Aug-09	Wed	fine/isolated showers/very hot/light winds	0.3	29	16	83	E/SE
20-Aug-09	Thu	fine/isolated/ showers/very hot/light	0	29.3	9.5	79	S/SE
21-Aug-09	Fri	fine/very hot/light winds	0	29.9	13.5	71.7	E/SE
22-Aug-09	Sat	fine/isolated showers/very hot/moderate	0	30.3	14	67	W
23-Aug-09	Sun	very hot/fine/isolated showers/moderate	Trace	30.1	15.7	Maintenance	W/SW
24-Aug-09	Mon	sunny intervals/haze/showers/moderate	0	29.4	8	Maintenance	N/NE
25-Aug-09	Tue	sunny periods/a few	Trace	30.9	12	72	E/NE

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 – Monthly EM&A Report for August 2009 (No. 26)

APPENDIX J

ENVIRONMENTAL TEAM SITE INSPECTION CHECKLISTS

AUES

Projec	t:	Contract No.: DC Yuen Long, Kam Wai Drainage Imp Cheung Chun Sa	Tin, N proven	gau Tam Mei nents, Stage	1, Phase 2B –		nspected b	•	ve:	K. P. Ch	eung	
Inspec	tion					I	EC/IEC's re	epresenta	tive:			
Date:		29 July 2009				E	ETL/ ET's re	epresenta	tive:	Nicola H	on	
Time:		10:00					Contractor'	-	ntative:	Ray Che		
	_	05115041 1115					Checklist N			KT15-29	0709	
PART Weath		GENERAL INF	ORMA	TION Fine	Environment Cloudy	al P	Rainy	NA				
	erature:	30	<u> </u>] ºC	Cloudy	L	Railly					
Humidi		High	√	Moderate	Low							
Wind:		Strong		Breeze	Light	Γ	✓ Calm					
PART	B:	SITE AUDIT										
							Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Sectio	n 1: Wa	ater Quality										
1.01	Is an e	ffluent discharge lic	ense o	btained for the	e Project?			\checkmark				
1.02	Is the	effluent discharged i	n acco	rdance with th	e discharge licenc	e?		\checkmark				
1.03	Is the	discharge of turbid v	vater a	voided?				\checkmark				
1.04		ere proper desiltin SS levels in effluer		ities in the d	rainage systems	to		\checkmark				
1.05		ere channels, sandt entation tanks?	ags o	r bunds to dire	ect surface run-off	to		\checkmark				
1.06		ere any perimeter of pt storm runoff from			t site boundaries	to		\checkmark				
1.07	Is drain	nage system well ma	aintain	ed?				\checkmark				
1.08		cavation proceeds, and stone or gravel?	ire tem	nporary access	s roads protected	by		\checkmark				
1.09	Are ter	mporary exposed slo	pes pi	roperly covere	d?			\checkmark				
1.10	Are ea	rthworks final surfac	es we	ll compacted o	or protected?						\checkmark	
1.11	Are ma	anholes adequately	covere	d or temporari	lly sealed?			$\overline{\checkmark}$				
1.12	Are the	ere any procedures	and eq	uipment for ra	instorm protection	1?		$\overline{\checkmark}$				
1.13	Are wh	neel washing facilitie	s well	maintained?				$\overline{\mathbf{V}}$				
1.14	Is runc	off from wheel washi	ng faci	lities avoided?	•			$\overline{\mathbf{V}}$				
1.15	Are the	ere toilets provided o	on site'	?								
1.16		lets properly mainta					Ш	\checkmark	Ш	Ш	Ш	
1.17		e vehicle and plant sareas?	servicii	ng areas pave	d and located with	hin					\checkmark	
1.18	Is the	oil leakage or spillag	e avoi	ded?				\checkmark				
1.19		ere any measures ge system?	to pre	vent leaked o	il from entering t	he		\checkmark				
1.20		ere any measures ngs during concreting			ment and concre	ete					\checkmark	
1.21		ere any oil intercepto nicle and plant servic				ms					\checkmark	
1.22	Are the	e oil interceptors/gre	ase tra	aps maintained	d properly?						\checkmark	



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		V				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		V				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		V				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				_
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

AUES

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		\checkmark				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?				\checkmark		Remark 1
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Section	on 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800 (KT2).		\checkmark				
6.03	Works in the marsh and other disturbances to this area is avoided?		\checkmark				
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		\checkmark				
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?		\checkmark				
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.		\checkmark				
Section7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	



Remarks

Follow-Up of Last Site Inspection (24 July 2009):

- 1. The used timer scattered at Ch.200 have been removed.
- 2. Stagnant water observed at Ch. 1250 has been drained away.

Finding of Site Inspection on 29 July 2009:



Remark 1: Used timer was observed at Ch. 200, the Contractor is urged to clear the waste and improve the housekeeping of the construction site.

IEC's representative

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RE's representative

ET's representative

Contractor's representative

Nicola Hon

Page 5 of 5

AUES

Project:		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				nspected b	•	ve:	K. P. Cheung			
Inspection						EC/IEC's re	•					
Date: Time:		5 August 2009 10:00				ETL/ ET's re Contractor's	•		Nicola H			
Tillie.						Checklist N	-	illative.	Ray Cheung KT15-050809			
PART A:		GENERAL INFORMATION Environmenta										
Weather:		Sunny Fine V Cloudy				Rainy						
Temperature:		27.0	°C									
Humidity:		✓ High	Moderate	Low								
Wind:		Strong	✓ Breeze	Light		Calm						
PART E	3:	SITE AUDIT										
						Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks	
Section	n 1: Wá	ater Quality										
1.01	Is an e	ffluent discharge licens	se obtained for the	Project?		Ш	\checkmark	Ш	Ш	Ш.		
1.02	Is the e	effluent discharged in a	accordance with the	e discharge licence	e?		$\overline{\checkmark}$					
1.03	Is the discharge of turbid water avoided?						\checkmark					
	Are there proper desilting facilities in the drainage systems reduce SS levels in effluent?				to		\checkmark					
	Are there channels, sandbags or bunds to direct surface run-off sedimentation tanks?			to		\checkmark						
	Are there any perimeter channels provided at site boundaries intercept storm runoff from crossing the site?				to		\checkmark					
1.07	Is drainage system well maintained?						\checkmark					
	As excavation proceeds, are temporary access roads protected crushed stone or gravel?				by		\checkmark					
1.09	Are ter	mporary exposed slope	es properly covered	d?			\checkmark					
1.10	Are ea	rthworks final surfaces	well compacted o	r protected?						$\overline{\checkmark}$		
1.11	Are manholes adequately covered or temporarily sealed?						\checkmark					
1.12	Are the	ere any procedures and	d equipment for rai	nstorm protection	?		$\overline{\checkmark}$					
1.13	Are wh	neel washing facilities v	well maintained?				\checkmark					
1.14	Is runo	off from wheel washing	facilities avoided?				\checkmark					
1.15	Are there toilets provided on site?						\checkmark					
1.16	Are toi	lets properly maintaine	ed?				\checkmark					
		e vehicle and plant ser areas?	rvicing areas paved	d and located with	nin					$\overline{\checkmark}$		
1.18	Is the	oil leakage or spillage a	avoided?				\checkmark					
	Are there any measures to prevent leaked oil from entering the drainage system?			il from entering th	he		\checkmark					
		ere any measures to ngs during concreting v		ment and concre	ete					$\overline{\checkmark}$		
		ere any oil interceptors nicle and plant servicinq			ns					$\overline{\checkmark}$		
1.22	Are the	e oil interceptors/greas	e traps maintained	properly?						\checkmark		



		Not Obs.	Yes	No	Follow	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					$\overline{\checkmark}$	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					$\sqrt{}$	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.				\checkmark		
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		\checkmark				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				_
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		\checkmark				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?		\checkmark				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Sectio	n 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Sectio	n 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800		\checkmark				
6.03	(KT2). Works in the marsh and other disturbances to this area is avoided?	П	$\overline{\checkmark}$		П	П	
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		<u> </u>				
	Stockpiling or disposal of materials, and any dredging or						
6.05	construction activities at the marsh at KT15 are prohibited? Mimimise the need to remove vegetation including trees. If tree		$\overline{\checkmark}$	Ш		Ш	
6.06	felling is necessary, tree felling permit should be apply before any felling activities.	Ш	\checkmark				
Sectio	n7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	



Remarks

Follow-Up of Last Site Inspection (29 July 2009):

1. The used timer scattered at Ch.200 have been removed.

Finding of Site Inspection on 5 August 2009:

No adverse environmental issue was found during this weekly environmental site inspection
As a reminder, ponding water should be pumped off from any excavation pit after rainfall to eliminate mosquitoes breeding.

RE's representative		IEC's representative		Er's	representative	_	Contractor's representative	
(to overing)	()		Nicola Hon)	(Ray Choung)

Project	t: <u>.</u>	Contract No.: DC/20 Yuen Long, Kam Ti Wai Drainage Impro Cheung Chun San	n, Ngau Tam Mei ovements, Stage 1	l, Phase 2B –		nspected b	•	ve:	K. P. Ch	K. P. Cheung				
Inspect	tion				ı	EC/IEC's re	presenta	tive:	-					
Date:	-	12 August 2009				ETL/ ET's re	•		Ben TAN					
Time:	-	10:00				Contractor's Checklist N	-	ntative:		Ray Cheung KT15-120809				
PART A	Δ-	GENERAL INFOR	PMATION	Environmenta					1(110-12	0000				
Weathe		Sunny	Fine	Cloudy	ai F	Rainy	VA.							
Temper	rature:	26.8	°C		_									
Humidit	ty:	✓ High	Moderate	Low										
Wind:		Strong	✓ Breeze	Light		Calm								
PART E	В:	SITE AUDIT												
						Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks			
		ater Quality												
1.01	ls an e	ffluent discharge licen	se obtained for the	Project?		Ш	\checkmark	Ш	Ш	Ш.				
1.02	Is the e	effluent discharged in a	accordance with the	e discharge licence	e?		$\overline{\checkmark}$							
1.03	Is the o	discharge of turbid wat	er avoided?				\checkmark							
		re there proper desilting facilities in the drainage system duce SS levels in effluent?					\checkmark							
		ere channels, sandbag entation tanks?	gs or bunds to dire	ct surface run-off	to		\checkmark							
		Are there any perimeter channels provided at site boundarientercept storm runoff from crossing the site?					\checkmark							
1.07	Is drainage system well maintained?						\checkmark							
		cavation proceeds, are d stone or gravel?	temporary access	roads protected I	by		\checkmark							
1.09	Are ter	mporary exposed slope	es properly covered	d?			\checkmark							
1.10	Are ea	rthworks final surfaces	s well compacted o	r protected?						$\overline{\mathbf{V}}$				
1.11	Are ma	anholes adequately co	vered or temporari	ly sealed?			\checkmark							
1.12	Are the	ere any procedures an	d equipment for rai	instorm protection	?		$\overline{\checkmark}$							
1.13	Are wh	neel washing facilities v	well maintained?				\checkmark							
1.14	Is runo	off from wheel washing	facilities avoided?				\checkmark							
1.15	Are the	ere toilets provided on	site?				\checkmark							
1.16	Are toil	lets properly maintaine	ed?				\checkmark							
		e vehicle and plant ser areas?	rvicing areas pave	d and located with	nin					$\overline{\checkmark}$				
1.18	Is the o	oil leakage or spillage	avoided?				\checkmark							
		ere any measures to ge system?	prevent leaked o	il from entering th	he		\checkmark							
		ere any measures to ngs during concreting v		ment and concre	ete					\checkmark				
		ere any oil interceptors icle and plant servicing			ns					\checkmark				
1.22	Are the	e oil interceptors/greas	e traps maintained	properly?						\checkmark				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		\checkmark				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				_
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		\checkmark				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?		\checkmark				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Sectio	n 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Sectio	n 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800 (KT2).		\checkmark				
6.03	Works in the marsh and other disturbances to this area is avoided?		\checkmark				
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		\checkmark				
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?		\checkmark				
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.		\checkmark				
Sectio	n7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	



Remarks

Follow-Up of Last Site Inspection (5 August 2009):

1. NIL

Finding of Site Inspection on 12 August 2009:

No adverse environmental issue was found during this weekly environmental site inspection.

Project	:: <u>.</u>	Contract No.: DC// Yuen Long, Kam T Wai Drainage Imp	Γin, N _i	gau Tam Mei nents, Stage ′	1, Phase 2B –		nspected b	-						
Inonesi		Cheung Chun Sar	1 Tsue	en and Kam T	sin Wai		RE/RE's rep			K. P. Cheung Cyrus Lau				
Inspect Date:	tion	19 August 2009					EC/IEC's re ETL/ ET's re	•		Cyrus La		_		
Time:	-	10:00					Contractor's	-		Ray Che				
							Checklist N	-		KT15-19				
PART A	A :	GENERAL INFO	RMA	TION	Environment	tal P	ermit No. N	IA						
Weathe	er:	✓ Sunny		Fine	Cloudy		Rainy							
Temper	rature:	32		°C										
Humidit	ty:	High	✓	Moderate	Low									
Wind:		Strong	✓	Breeze	Light		Calm							
PART E	В:	SITE AUDIT												
							Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks		
		ater Quality												
1.01	Is an e	ffluent discharge lice	nse o	btained for the	Project?		Ш	\checkmark	Ш	Ш	Ш			
1.02	Is the e	effluent discharged in	acco	rdance with the	e discharge licenc	ce?		$\overline{\checkmark}$						
1.03	Is the o	discharge of turbid w	ater a	voided?				\checkmark						
		re there proper desilting facilities in the drainage system educe SS levels in effluent?				to		\checkmark						
		ere channels, sandba entation tanks?	ags or	bunds to dire	ect surface run-off	f to		\checkmark						
1.06	Are the interce	re there any perimeter channels provided at site boundarie itercept storm runoff from crossing the site?				to		\checkmark						
1.07	Is drainage system well maintained?							\checkmark						
		cavation proceeds, and stone or gravel?	re tem	porary access	s roads protected	by		\checkmark						
1.09	Are ter	mporary exposed slo	pes pr	operly covere	d?			\checkmark						
1.10	Are ea	rthworks final surface	es wel	l compacted o	or protected?						\checkmark			
1.11	Are ma	anholes adequately o	overe	d or temporari	ly sealed?			\checkmark						
1.12	Are the	ere any procedures a	nd eq	uipment for ra	instorm protection	า?		\checkmark						
1.13	Are wh	neel washing facilities	s well i	maintained?				\checkmark						
1.14	Is runo	off from wheel washir	ıg faci	lities avoided?	•			$\overline{\checkmark}$						
1.15	Are the	ere toilets provided o	n site?	?				\checkmark						
1.16	Are toil	lets properly maintair	ned?					\checkmark						
		e vehicle and plant s areas?	ervicir	ng areas pave	d and located with	hin					\checkmark			
1.18	Is the o	oil leakage or spillage	e avoi	ded?				\checkmark						
		ere any measures t ge system?	o pre	vent leaked o	il from entering t	the		\checkmark						
1 20	Are th	ere any measures ngs during concreting			ment and concre	ete					\checkmark			
		ere any oil intercepto iicle and plant servici				ms					\checkmark			
1.22	Are the	e oil interceptors/grea	ase tra	ps maintained	d properly?						\checkmark			



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					V	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot sible from NSRs (Level 2 mitigation measure).					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		\checkmark				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?				\checkmark		Photo 1 & 2
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		\checkmark				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?		\checkmark				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Sectio	n 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Sectio	n 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800 (KT2).		\checkmark				
6.03	Works in the marsh and other disturbances to this area is avoided?		\checkmark				
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		\checkmark				
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?		\checkmark				
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.		\checkmark				
Sectio	n7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	

Remarks

Follow-Up of Last Site Inspection (12 August 2009):

No adverse environmental impact was observed during site inspection.

Finding of Site Inspection on 19 August 2009:







Photo 2

Larvicidal oil and chemical waste were observed at Bay 4 and 17. The Contractor is reminded to store unused chemicals in proper chamber, and dispose off any chemical waste properly.

RE's representative

IEC's representative

ET's representative

Contractor's representative

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Cyrus Lan

Carson Chan

T. Y. Chemy

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Are toilets properly maintained?

Is the oil leakage or spillage avoided?

washings during concreting works?

roofed areas?

drainage system?

Are the vehicle and plant servicing areas paved and located within

Are there any measures to prevent leaked oil from entering the

Are there any measures to collect spilt cement and concrete

Are there any oil interceptors/grease traps in the drainage systems

for vehicle and plant servicing areas, canteen kitchen, etc?

Are the oil interceptors/grease traps maintained properly?

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Remark D

Remark 10

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		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					Ø	
1.24	Is designated settlement area for runoff / wheel wash water provided and located at the streambed with 1-2m deep, 12m long and around 50m ³ capacities for sedimentation?						
1.25	Is excavation prohibited in the settlement area?						
1.26	Is concreting wastes water neutralized below the pH Action Levels before discharge?						
1.27	Are mobile toilets provided on site and located away from the KT15 stream course?	· 🗆					
1.25	Is License collector employed for handling the sewage of mobile toilet?						
Section	on 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	لسا					
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?						
2.03	Are the excavated materials sprayed with water during handling?						
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	لسا					
2.05	Is the exposed earth properly treated within six months after the last construction activities?						
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<u></u>					
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	لسا				\square .	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?						
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?						
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?						
2.11	Is dark smoke emission from plant/equipment avoided?						
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?						
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?						· · · · · · · · · · · · · · · · · · ·
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?						
2.15	Is open burning avoided?						
2.16	Are excavated materials from the stream removed form site on the same day and be stored in covered impermeable skips while awaiting removal from site?						•
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?						
3.02	Is silenced equipment adopted?						A.A.
3.03	Is idle equipment turned off or throttled down?						
3.04	Are all plant and equipment well maintained and in good condition?						
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?						
9.06	Are hand held breakers fitted with valid noise emission labels during operation?						
3.07	Are air compressors fitted with valid noise emission labels during operation?						
J. QQ	Are flaps and panels of mechanical equipment closed during operation?		Z				
	Are Construction Noise Permit(s) applied for percussive piling works?						
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Em	rironmental Site Inspection Checklist for KT15						AECOM
		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?						Trottered
3.11	Are valid Construction Noise Permit(s) posted at site entrances?				П		
3.12	is quiet plant used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures)?						4444A
3.13	Are temporary / moveable noise barrier or site hoarding provided or erected at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments be shielded by the noise barrier which cannot be visible from NSRs (Level 2 mitigation measure)?						
3.14	Are temporary / moveable noise barrier equal to or more than 3m height with 10kg/m² provided for noise mitigation measures (Level 2 mitigation measures)?						V
Secti	on 4: Waste/Chemical Management						
4.01	Is the Waste Management Plan submitted to Engineer for approval?						
4.02	Are receptacles available for general refuse collection?						
4.03	Is general refuse sorting or recycling implemented?						-
4.04	Is general refuse disposed of property and regularly?		4				•
4.05	Is the Contractor registered as a chemical waste producer?						
4.06	Are the chemical waste containers properly labelled?						
4.07	Are the chemical wastes stored in proper storage areas?						•
4.08	Is the chemical waste storage area properly labelled?						
1.09	Is the chemical waste storage area used for storage of chemical waste only?						
1.10	Are incompatible chemical wastes stored in different areas?		7				
.11	Are the chemical wastes disposed of by licensed collectors?						
1.12	Are trip tickets for chemical wastes disposal available for inspection?						
1.13	Are chemical/fuel storage areas bunded?		·/				lamade O
1.14	Are designated areas identified for storage and sorting of construction wastes?						Tomale . ()
1.15	Are construction wastes sorted (inert and non-inert) on site?						
l.16	Are construction wastes reused?						
1.17	Are construction wastes disposed of properly?						
.18	Are site hoardings and signboards made of durable materials instead of timber?						
.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?						
.20	Are appropriate procedures followed if contaminated material exists?						
.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?						
.22	Is site cleanliness and appropriate waste management training provided for the site workers?						
.23	Are contaminated sediments managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002?						
ectio	n 5: Landscape & Visual					-	
.01	Are retained and transplanted trees in health condition?		7	П	П	П	

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Environmental Site Inspection Checklist for KT15

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Remarks

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

(Jbe Chan) (John) (Carfor Chan) (Change)

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Project: Inspection Date: Time: PART A: Weather: Temperature: Humidity:		Sunny Fine Cloudy			Inspected by RE/RE's representative: IEC/IEC's representative: ETL/ ET's representative: Contractor's representative: Checklist No. al Permit No. NA			K. P. Cheung - Nicola Hon Ray Cheung KT15-240809			
Wind:		Strong	Breeze	✓ Light		Calm					
PART	В:	SITE AUDIT									
						Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Sectio	n 1: Wa	ater Quality							· ·		
1.01	Is an e	ffluent discharge license	obtained for the	Project?			\checkmark				
1.02	Is the	effluent discharged in acc	cordance with the	e discharge licence	?		\checkmark				
1.03	3 Is the discharge of turbid water avoided?						\checkmark				
1.04	Are there proper desilting facilities in the drainage systems reduce SS levels in effluent?			to		\checkmark					
1.05	Are there channels, sandhars or hunds to direct surface run_off			to		\checkmark					
1.06	Are there any perimeter channels provided at site houndaries			to		\checkmark					
1.07						\checkmark					
1.08	As exc	avation proceeds, are to	emporary access	roads protected b	ру		\checkmark				
1.09	Are ter	mporary exposed slopes	properly covered	d?					\checkmark		Remark 1
1.10	Are ea	rthworks final surfaces w	vell compacted o	r protected?						\checkmark	
1.11	Are ma	anholes adequately cove	red or temporari	ly sealed?			\checkmark				
1.12	Are the	ere any procedures and e	equipment for ra	instorm protection?	?		\checkmark				
1.13	Are wh	eel washing facilities we	ell maintained?				$\overline{\checkmark}$				
1.14	Is runoff from wheel washing facilities avoided?						$\overline{\checkmark}$				
1.15	5 Are there toilets provided on site?					\checkmark					
1.16	Are toilets properly maintained?					\checkmark					
1.17		e vehicle and plant servi areas?	cing areas pave	d and located with	in					\checkmark	
1.18	Is the	oil leakage or spillage av	oided?				\checkmark				
1.19		ere any measures to page system?	revent leaked o	il from entering th	ne		\checkmark				
1.20		ere any measures to gs during concreting wo		ment and concre	te					\checkmark	
1.21		ere any oil interceptors/gicle and plant servicing a			าร					\checkmark	
1.22	for vehicle and plant servicing areas, canteen kitchen, etc? 1.22 Are the oil interceptors/grease traps maintained properly?									\checkmark	



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		V				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		V				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?		\checkmark				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Section	on 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Section	on 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800 (KT2).		\checkmark				
6.03	Works in the marsh and other disturbances to this area is avoided?		\checkmark				
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		\checkmark				
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?		\checkmark				
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.		\checkmark				
Section7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	

Remarks

Follow-Up of Last Site Inspection (19 August 2009):

Lubricant oil and chemical waste were observed at Bay 4 and 17 have been removed by the Contractor.

Finding of Site Inspection on 24 August 2009:



Remark 1: Exposed slope was observed at Bay 1, the Contractor should cover the slope with tarpaulin sheet to prevent generation of run-off to the river.

RE's representative	IEC's representative	ET's representative	Contractor's representative
· Ep CHENNUT!		(Nicola Hon)	(T.Y. Charung)

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 – Monthly EM&A Report for August 2009 (No. 26)



APPENDIX K

RESPONSE TO COMMENTS

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 – Monthly EM&A Report for August 2009 (No. 26)



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 – Monthly EM&A Summary Report for August 2009 (R1447 Version 2)

Response to IEC's comments [Received from e-mail on 11 September 2009]

Items	Section / Paragraph	Comments	Response to Comments
1	Cover Page	Amended.	
2	Table 7-1	For 5-Aug-2009, it is advised to rewrite as "No adverse environmental issue was found"	Amended.
3	Appendix H	Please update the graph of pH monitoring result with inclusion of the latest set of data.	Amended.
4	Appendix J	In site inspection checklist on 5-Aug-09 in the finding item, it is advised to rewrite as "No adverse environmental issue was found".	Amended.
5	Appendix K, Item no. 5 It should be "3-Aug-09" and "19-Aug-09" respectively. Please revise it.		Revised.

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 – Monthly EM&A Report for August 2009 (No. 26)



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 – Monthly EM&A Summary Report for August 2009 (R1447 Version 1)

Response to IEC's comments [Received from e-mail on 9 September 2009]

Items	Section / Paragraph	Comments	Response to Comments
1	ES14. /Section 5.10/ Section 11.05	Please clarify if any discharge to the adjacent wetlands was observed.	Amended.
2	ES15./ Table 11-1	Please delete out the column of "decrease in the total number of species or individuals of wetland fauna from baseline" as it is irrelevant.	Amended.
3	Section Heading below Section 4.19	Please move the section heading "Dissolved Oxygen (DO)" to the next page to keep consistency.	Amended.
4	Table 4-2/ Section 4.22 /Appendix F	Please keep consistency of the model of the pH meter employed.	Amended. Extech pH meter is employed
5	Table 5.4/ Appendix H	According to the data set listed in Appendix H, there are some typos found in Table 5.4: 1)_The measured D.O. value at W9A on 3-Aug-09 should be rounded off as 4.8. 2)_The measured D.O. value at W9A on 19-Aug-09 should be rounded off as 3.9. Please revise and update the captioned table.	Amended.
6	Section 7.01	The IEC monthly site audit should be conducted on 19 August 2009. Please check and revise it.	Amended
7	Table 7-1	 There are typos found in the table: For 29-Jul-2009, it should be "housekeeping" without space in between and "clean up /clear the waste". For 5-Aug-2009, it should be "pumped off from any excavation pit". For 12-Aug-2009, it is advised to rewrite as "No adverse environmental issue was found". For 19-Aug-2009, it should be "dispose off". Please check and update the table accordingly. 	Amended
8	Section 11.07	 There are typos found in the text: For the 1st bullet, it should be "housekeeping" without space in between and "clean up /clear the waste". For the 2nd bullet, it should be "dispose off". Please check and update the text accordingly. 	Amended
9	Appendix B	The 3-month construction programme is missing. Please attach back to Appendix B.	It has enclosed in Appendix B.

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 – Monthly EM&A Report for August 2009 (No. 26)



Items	Section / Paragraph	Comments	Response to Comments
10	Appendix C	Please update the organization name of IEC as "AECOM Asia Company Limited" and "AECOM" in short form.	Amended.
11	Appendix F	The Serial number of the pH meter is not consistency with the one listed in the attached calibration certificate. Please check and revise it.	Amended.
12	Appendix H	Please update the graph of pH monitoring result with inclusion of the latest set of data.	Amended.
13	Appendix J	In site inspection checklist on 29-Jul-09, ◆ In the finding item, it should be "clear/clean up the waste" and "housekeeping" without space in between. In site inspection checklist on 5-Aug-09, ◆ In the follow-up item, please check if the photo is corresponding to the item mentioned at Ch.200 on 29-Jul-09. ◆ In the finding item, it should be "pumped off from any excavation pit". In site inspection checklist on 12-Aug-09, ◆ In the finding item, it is advised to rewrite as "No adverse environmental issue was found". In site inspection checklist on 19-Aug-09, ◆ In the finding item, it should be "dispose off". ◆ Please include the signature of IEC's representative. Please check and revise the items accordingly.	Amended. The signature of IEC's representative is still waiting.