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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

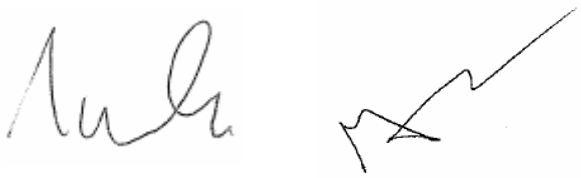
KT15 - MONTHLY EM&A REPORT FOR SEPTEMBER 2009 (NO. 27)

PREPARED FOR

CHIT CHEUNG CONSTRUCTION COMPANY LIMITED

Quality Index

Date	Reference No.	Prepared By	Certified By
14 October 2009	TCS00371/07/600/R1485v3	Nicola Hon	Andrew Lau



Environmental Consultant Environmental Team Leader

Ver. No.	Date	Remarks
1	8 October 2009	First Submission
2	12 October 2009	Amended against IEC's comments on 12 Oct 2009
3	14 October 2009	Amended against IEC's Comments on 13 Oct 2009

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 **September 2009 (No. 27)** presents the EM&A results for the period from **26 August to 25 September 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	-	-
Stream Water	Dissolve Oxygen (DO)	-	-
	Turbidity (NTU)	-	-
	pH	-	-
	Suspended Solids (SS)	-	-
	Ammonia Nitrogen	-	-
	Zinc	-	-
Ecology	Number of species of wetland birds	-	21 September 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 **October 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	**18**	Events
• 24-hour TSP Monitoring	**6**	Events
• Noise Monitoring	**6**	Events
• Stream Water Quality	**18**	Events
• Ecology	**1**	Event
• Site Inspection Audit	**4**	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. Two individuals from one wetland bird species with abundance from the baseline were observed during the survey on 21 September 2009 and a total of 49 individuals of birds from 16 species were recorded. The species number of wetland dependent bird 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 September 2009 during the 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 excessive 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 Quality	1-hour TSP	0	Not Required for 0% Project Related
	24-hour TSP	0	Not Required for 0% Project Related
Noise	Leq (30min) Daytime	0	Not Required for 0% Project Related
Stream Water	Dissolve Oxygen (DO)	0	Not Required for 0% Project Related
	Turbidity (NTU)	0	Not Required for 0% Project Related
	pH	0	Not Required for 0% Project Related
	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.

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LIST OF APPENDICES

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 **September 2009** during the period from **26 August to 25 September 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 liaison;
- Excavation
- Gabion installation
- Hydroseeding
- Planting tree

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)	Registration on 20 April 2007
4	Chemical Waste Producer Registration WPN:5113-533-C3434-09 (Kam Tsin Wai, Kam Tin, Yuen Long)	Registration on 20 April 2007
5	Chemical Waste Producer Registration WPN:5213-424-C3431-01 (Portion 7, Birthing Area, Hoi Wan Road, Tuen Mun)	Registration on 20 April 2007
6	Water Pollution Control Ordinance (Discharge License) License No.: 1U450/1	Updated on 20 June 2009
7	Billing Account for Disposal of Construction Waste (Account Number: 7005311)	Valid on 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 TSP		A10
Construction Noise	$Leq_{(30min)}$ during normal working hours		N10a*
	Supplementary data of L_{10} and L_{90} for reference		
Stream Water Quality	In Situ Measurement	• Dissolved Oxygen Concentration (mg/L);	W9A & W9B
		• Dissolved Oxygen Saturation (% Sat);	
		• Turbidity (NTU);	
		• pH;	
		• Salinity (%); Water Depth (m) and	
		• Temperature (^oC);	
	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/m^3)		Limit Level (μg/m^3)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
A10	> 307	> 165	> 500	> 260

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

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

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

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

Dissolved Oxygen (mg/L)	W9A (Upstream)#	W9B (Downstream)
Action Level	NA	< 0.3
Limit Level	NA	< 0.2
Turbidity (NTU)		
Action Level	NA	> 73.5*
Limit Level	NA	> 78.2**
pH		
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 species or individuals of the surveyed faunal groups from baseline	20 – 40% of individuals and species	> 40% of individuals and 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 Location	
N10 *	Village House in Tin Sam San Tsuen
N10a	Village House in Tin Sam San Tsuen
Water Quality Locations	
W9A #	Tin Sam San Tsuen
W9B	Tin Sam San Tsuen

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 **18** 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 **6** 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 **6** 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 September 2009** this month.

MONITORING EQUIPMENT

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

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

Parameters	Equipment	Monitoring Equipment
1-hour TSP	Portable dust meter	Sibata LD-3 Laser Dust Meter or TSI DuskTrak Model 8520
24-hour TSP	High Volume Sampler	Grasby Anderson GMWS 2310 HVS
	Calibration Kit	TISCH Model TE-5025A
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
pH	pH Meter	Hanna HI 98128 or 98107 or Extech Instruments, ExStik™ Model pH110
Turbidity	Turbidimeter	Hach 2100P
Salinity	Salinometer	ATAGO refractometer
-	Water Sampler	Teflon bailer / bucket
-	Sample Container	High density polythene bottles (provided by laboratory)
-	Storage Container	'Willow' 33-litter plastic cool box

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 m^3/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 in^2;
- Flow control accuracy of ±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 ±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^{o}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^{o}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^{o}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^{o}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	1st Result (μg/m³)	2nd Result (μg/m³)	3rd Result (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
27-Aug-09	09:27	63	68	66	> 307	> 500
2-Sep-09	09:24	75	86	83	> 307	> 500
8-Sep-09	09:23	83	91	86	> 307	> 500
14-Sep-09	09:24	85	99	93	> 307	> 500
19-Sep-09	09:28	78	90	83	> 307	> 500
25-Sep-09	09:28	41	55	46	> 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)
26-Aug-09	26	> 165	> 260
1-Sep-09	40	> 165	> 260
7-Sep-09	39	> 165	> 260
12-Sep-09	28	> 165	> 260
18-Sep-09	50	> 165	> 260
24-Sep-09	20	> 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	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30
27-Aug-09	09:40	47.3	48.6	44.8	45.2	45.8	46.3	46.5
2-Sep-09	09:38	47.8	47.3	48.4	50.4	46.8	43.7	47.8
8-Sep-09	09:36	51.2	50.8	49.0	47.2	47.8	48.3	49.3
14-Sep-09	09:31	53.3	49.0	48.3	46.7	47.2	48.4	49.5
19-Sep-09	09:39	46.8	47.5	46.6	46.3	46.5	47.8	47.0
25-Sep-09	09:36	48.0	48.2	47.4	46.2	46.9	47.3	47.4
Limit Level		-						**> 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 Date	DO in mg/L		Turbidity (NTU)		pH		SS in mg/L		Ammonia nitrogen (mg/L)		Zinc (μg/L)	
	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B
26-Aug-09	6.2	5.1	16.3	10.8	7.7	6.5	10.0	45	0.0	0.39	11.0	19
31-Aug-09	3.1	5.6	11.5	9.7	7.4	6.7	4.0	30	0.1	2.40	10.0	87
2-Sep-09	3.4	5.3	10.4	7.7	7.8	6.9	14.0	14	2.0	2.07	44.0	40
7-Sep-09	3.3	5.1	9.8	7.2	7.6	6.7	6.0	5	0.0	0.02	10.0	10
9-Sep-09	3.8	4.7	7.8	7.3	7.6	6.9	9.0	19	0.1	2.51	10.0	37
14-Sep-09	4.0	3.2	15.4	17.3	6.8	6.9	505.0	215	0.9	0.06	197.0	165
16-Sep-09	5.5	5.3	16.1	18.3	7.3	6.8	226.0	142	0.1	0.12	97.0	109
21-Sep-09	6.2	5.6	10.0	12.1	7.5	6.8	12.0	7	1.6	1.53	15.0	14
23-Sep-09	5.8	5.1	8.5	12.8	7.6	6.6	13.0	12	2.0	1.77	17.0	13
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 Forty nine (49) individuals of birds from sixteen (16) species were recorded during the survey on 21 September 2009. Among the birds recorded, two individuals from one wetland bird species with abundance from the baseline (i.e. Cattle Egret and Chinese Pond Heron) were recorded. Compared with the average abundance of 1.2 individuals from 2 species of wetland dependent birds recorded during the baseline study, 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 September 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 excessive 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	Common Name	Abundance reported in the project profile	Abundance recorded in the present survey (21 September 09)
Birds			
Bubulcus ibis	**Cattle Egret**	**0.4**	
Ardeola bacchus	**Chinese Pond Heron**	**0.8**	**2**
Amaurornis phoenicurus	White-breasted Waterhen	Recorded only	
Streptopelia chinensis	Spotted Dove	Recorded only	5
Hirundo rustica	Barn Swallow	Recorded only	8
Motacilla alba	White Wagtail	Recorded only	1
Pycnonotus jocosus	Red-whiskered Bulbul	Recorded only	5
Pycnonotus sinesis	Chinese Bulbul	Recorded only	4
Lanius schach	Long-tailed Shrike	Recorded only	1
Copsychus saularis	Oriental Magpie Robin	Recorded only	3
Orthotomus sutorius	Common Tailorbird	Recorded only	2
Lonchura striata	White-rumped Munia	Recorded only	
Passer montanus	Eurasian Tree Sparrow	Recorded only	5
Sturnus nigricollis	Black-collared Starling	Recorded only	3
Acridotheres cristatellus	Crested Myna	Recorded only	2
Prinia flaviventris	Yellow-bellied Prinia	\	1
Garrulax perspicillatus	Masked Laughingthrush	\	4
Parus major	Great Tit	\	2
Centropus bengalensis	Lesser Coucal	\	1
Species Number		**15 spp. recorded, (only 2 species of wetland birds with abundance)**	**16 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)**	**49 (2 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

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)	21	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 **2, 9, 16 and 23 September 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 **16 September 2009** by IEC's representative with the Engineer's, the Contractor's and ET's representatives. No non-compliance but **four** 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
2 Sept 2009	• The construction waste was observed at Ch. 1300, the Contractor should improve the housekeeping of the construction site.	During the site inspection on 9 Sep 2009, the construction waste observed at Ch. 1300 was found to be cleared.
9 Sept 2009	• No adverse environmental impact was observed during site inspection.	No follow-up was necessary.
16 Sept 2009	• C&D waste was scattered on site, housingkeeping should be improved to maintain the site clean and tidy. • Stagnant water cumulated inside the unused sedimentation tank was observed at Bay 40, the Contractor was reminded to clean up to prevent mosquito breeding.	During the site inspection on 23 Sep 2009, further improvement on housekeeping is required. The stagnant water cumulated inside the unused sedimentation tank at Bay 40 has been cleared.
23 Sept 2009	• Exposed surface was observed at Bay 1, the Contractor was reminded to cover it with tarpaulin sheet to prevent generation of surface run-off.	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

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	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
July – December 2007	0	0	NA
January – December 2008	0	0	NA
January –August 2009	0	0	NA
September 2009	0	0	NA

Table 8-2 Statistical Summary of Environmental Summons

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

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Nature
July – December 2007	0	0	NA
January – December 2008	0	0	NA
January –August 2009	0	0	NA
September 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;
- Public roads around the site entrance/exit had been kept clean and free from dust;
- Dust suppression measures were properly provided to reduce dust emission from stockpile.

Noise

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

Waste and Chemical Management

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

General

- The site was generally kept tidy and clean.

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**.

11.0 CONCLUSION

11.01 The EM&A program in **September 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 Quality	1-hour TSP	0	Not required as not due to project
	24-hour TSP	0	Not required as not due to project
Noise	Leq (30min) Daytime	0	Not required as not due to project
Stream Water	Dissolve Oxygen (DO)	0	Not required as not due to project
	Turbidity (NTU)	0	Not required as not due to project
	pH	0	Not required as not due to project
	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 Two individuals from one wetland bird species with abundance from the baseline were observed during the survey on 21 September 2009 and a total of 49 individuals of birds from 16 species were recorded. The species number of wetland dependent bird 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 September 2009 during the 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 excessive 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 inspections were conducted on **2, 9, 16 and 23 September 2009.** Although no non-compliance was found, totally **four** observations were recorded. The Contractor has been reminded to improve the observed deficiency. Details of the observations were as follows:-

- The construction waste was observed at Ch. 1300, the Contractor should improve the housekeeping of the construction site.

- C&D waste was scattered on site, housingkeeping should be improved to maintain the site clean and tidy.

- Stagnant water cumulated inside the unused sedimentation tank was observed at Bay 40, the Contractor was reminded to clean up to prevent mosquito breeding.

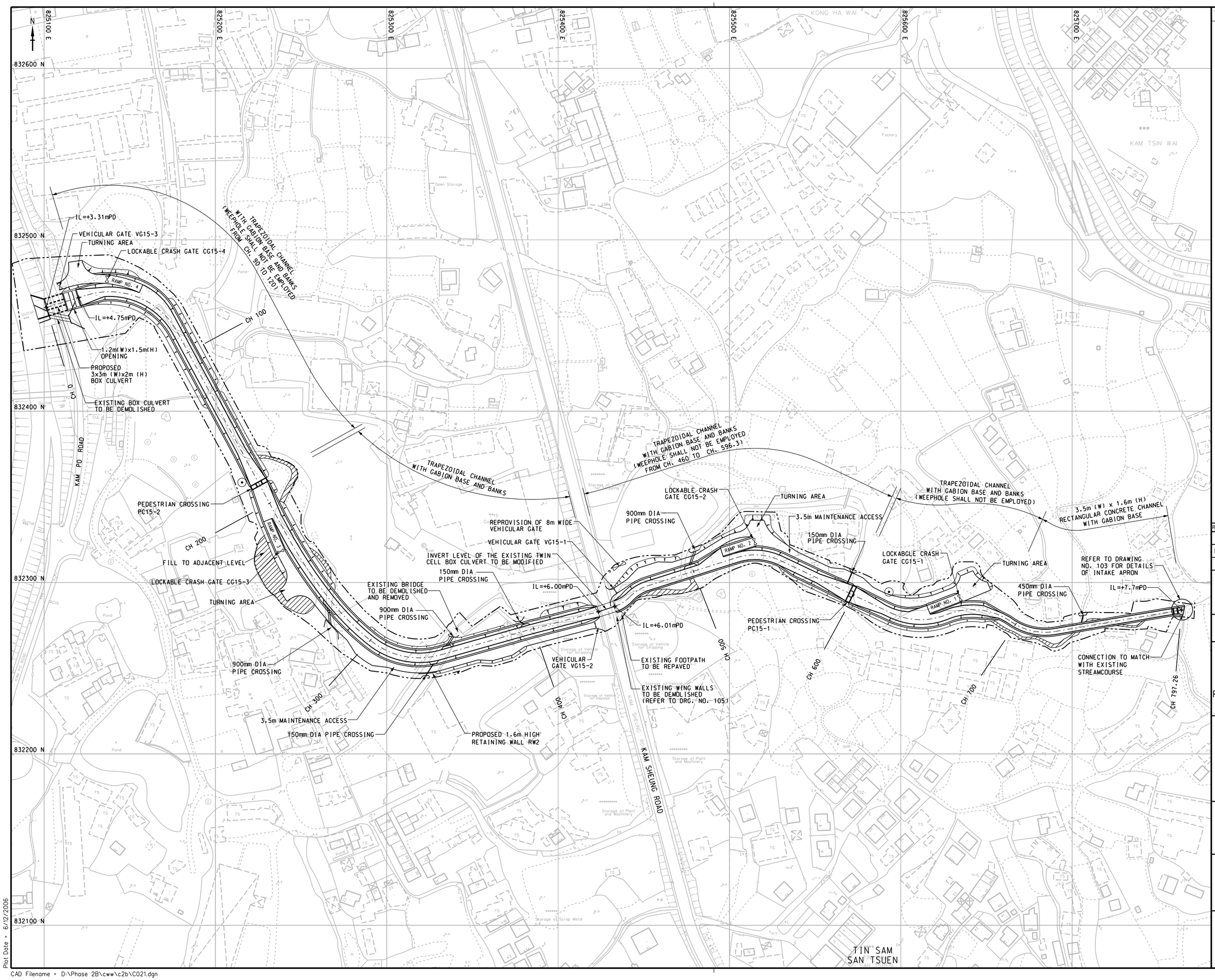
- Exposed surface was observed at Bay 1, the Contractor was reminded to cover it with tarpaulin sheet to prevent generation of surface run-off.

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



NOTES :

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

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

Approved

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

Drawing title

CHANNEL KT15
GENERAL LAYOUT PLAN

Drawing no.	Scale
021	1:1000 A1 1:2000 A3

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

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

Plot Date = 6/12/2006

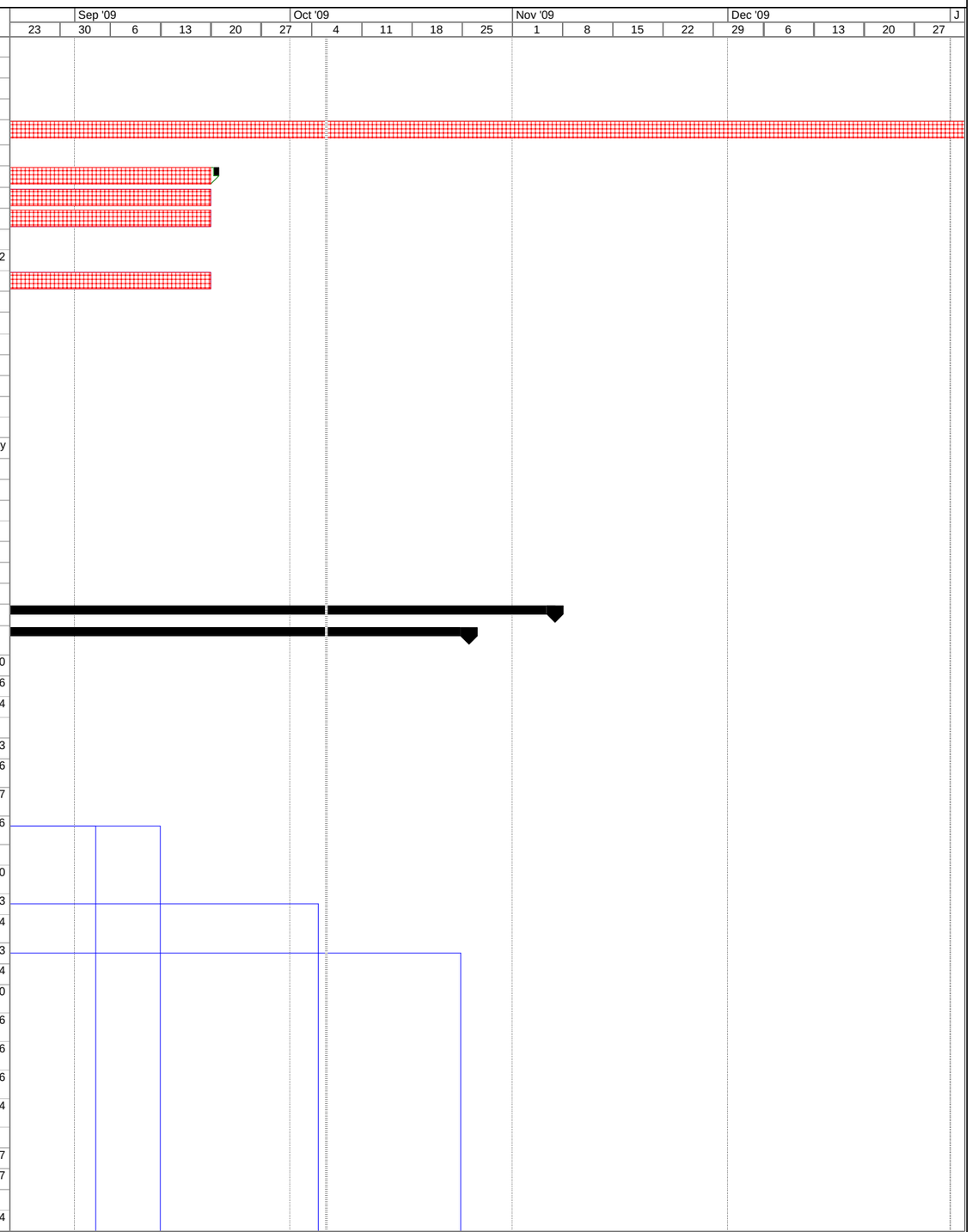
CAD Filename = D:\Phase 2B\cww\c2b\C021.dgn

APPENDIX B

THREE-MONTH CONSTRUCTION PROGRAM

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

ID	Task Name	Duration	Start	Total Slack	Finish	Predecessors	Successors
1	Letter of Acceptance	1 day	Wed 21/3/07	937 days	Wed 21/3/07		
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							
5	**Master Program of Works**	**1177 days**	**Fri 30/3/07**	**0 days**	**Fri 18/6/10**		
6							
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	1 day	Fri 30/3/07	0 days	Fri 30/3/07		
19	Portion 5 - channel KT15	91 days	Fri 30/3/07	750 days	Thu 28/6/07		
20	Portion 5A1 - channel KT15	91 days	Fri 30/3/07	0 days	Thu 28/6/07		FS-1 day,11FS-1 day
21	Portion 5A2 - channel KT15	91 days	Fri 30/3/07	750 days	Thu 28/6/07		
22	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**	**953 days**	**Fri 30/3/07**	**224 days**	**Fri 6/11/09**		
29	**Drainage Works, Waterworks and Roadworks in vincinity of Cheung Chun San Tsuen access**	**941 days**	**Fri 30/3/07**	**236 days**	**Sun 25/10/09**		
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	34 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**	**854 days**	**Fri 30/3/07**	**51 days**	**Thu 30/7/09**		
34	Construct the Channel Bay 28-29	68 days	Mon 2/2/09	136 days	Fri 10/4/09	32	43
35	Divert Tarffic to Temporary Access at North bank from Bay 14 to Bay 32	0 days	Tue 14/4/09	12 days	Tue 14/4/09		36
36	Removal of existing crossing(yellow bridge)	5 days	Tue 14/4/09	12 days	Sat 18/4/09	31,35	37
37	Fill the existing stream bed to road formation near Crossing VC2-3 (Bay 33-Bay 36)	45 days	Sun 19/4/09	12 days	Tue 2/6/09	36	45,46,48,51,165,166
38	**Drainage Works**	**854 days**	**Fri 30/3/07**	**51 days**	**Thu 30/7/09**		
39	Construct Dia370 Drainage Pipe CP2-1A to CP2-1 and the catchpits	5 days	Mon 2/2/09	206 days	Fri 6/2/09		40
40	Construct Half long U-channel CP2-1A.1	5 days	Sat 7/2/09	206 days	Wed 11/2/09	39	103
41	Construct Dia375 Drainage Pipe CP2-1B to CP2-3	3 days	Fri 30/3/07	806 days	Sun 1/4/07		42,54
42	Construct U-channel CP2-1B.1 & CP2-1B.2	14 days	Mon 2/4/07	888 days	Sun 15/4/07	41	113
43	Construct Dia375 Drainage Pipe from Bay 27	4 days	Sat 11/4/09	136 days	Tue 14/4/09	34	44
44	Construct gullies G2-1 & G2-2 and dia150 pipes towards CP2-4	4 days	Mon 27/7/09	33 days	Thu 30/7/09	43,64	80
45	Construct Part of Dia150 Drainage Pipe towards Outlet 2-1	10 days	Wed 3/6/09	12 days	Fri 12/6/09	37	51,56
46	Construct Part of Dia600 Drainage Pipe towards Catchpit CP2-4A	10 days	Wed 3/6/09	12 days	Fri 12/6/09	37	51,56
47	Construct Gullies G2-3 & G2-4 and Dia150mm Pipes towards CP2-4A	4 days	Sun 28/6/09	12 days	Wed 1/7/09	51	56
48	Construct part of U-channel CP2-4A.2(near permanent access's end)	2 days	Wed 3/6/09	16 days	Thu 4/6/09	37	64
49	**Waterworks**	**58 days**	**Fri 1/5/09**	**2 days**	**Sat 27/6/09**		
50	Construct Watermain from Ch0 to Ch92	27 days	Fri 1/5/09	33 days	Wed 27/5/09	30	57
51	Construct Watermain from Ch340 to Ch380	15 days	Sat 13/6/09	12 days	Sat 27/6/09	45,46,37	47
52	**Construct the Permanent Road Pavement**	**118 days**	**Tue 31/3/09**	**12 days**	**Sun 26/7/09**		
53	Ch40-Ch80 (Panel Nos. RA4 & RA5)	5 days	Mon 13/4/09	83 days	Fri 17/4/09		64

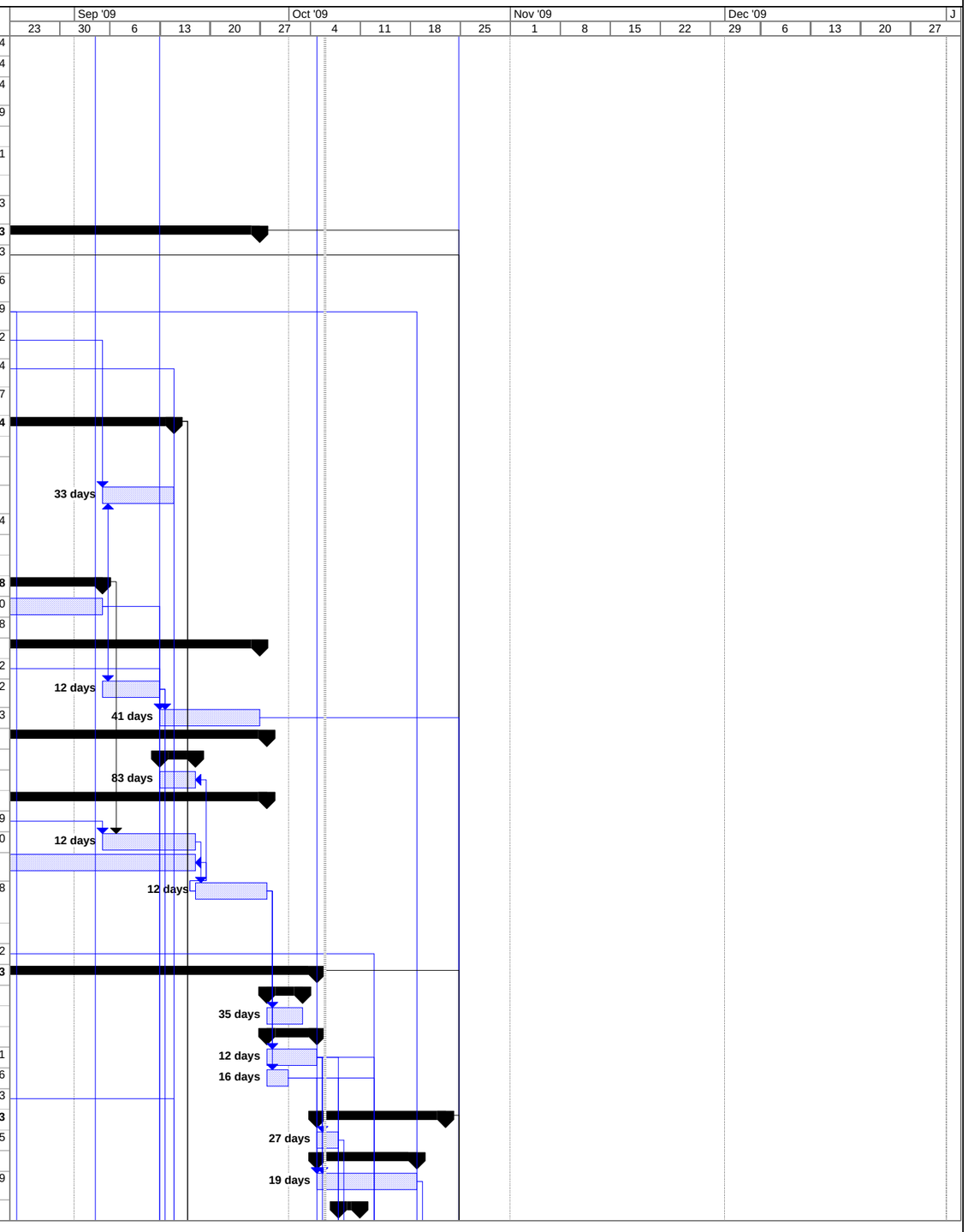


Project: Three-month Rolled Program (Aug - Oct 2009)
Date: Tue 6/10/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

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

ID	Task Name	Duration	Start	Total Slack	Finish	Predecessors	Successors
54	Ch140-Ch280 (Panel Nos. RA10 - RA16)	21 days	Tue 31/3/09	77 days	Mon 20/4/09	41	55,64
55	Ch280-ch300 (Panel No. RA 17a)	3 days	Tue 21/4/09	77 days	Thu 23/4/09	54	64
56	Ch300 - Ch380 and Pavement on VC2-3(excpet Panel No. RA19b)	25 days	Thu 2/7/09	12 days	Sun 26/7/09	45,46,47	64
57	Construct Temporary Access from Ch0 to Ch92	5 days	Thu 28/5/09	33 days	Mon 1/6/09	50	59
58	**Stage 2**	**8 days**	**Mon 1/6/09**	**33 days**	**Tue 9/6/09**		
59	Divert Traffic toward Cheung Chun San Tsuen to Temporary Access from Ch0-92	0 days	Mon 1/6/09	33 days	Mon 1/6/09	57	65,61
60	**Construct the Permanent Road Pavement**	**8 days**	**Tue 2/6/09**	**33 days**	**Tue 9/6/09**		
61	Ch92-Ch140 (Panel Nos. Bay RA7a, RA8a & RA9)	8 days	Tue 2/6/09	33 days	Tue 9/6/09	59	63
62	**Stage 3**	**109 days**	**Tue 9/6/09**	**14 days**	**Sat 26/9/09**		**113**
63	Divert Traffic toward Cheung Chun San Tsuen to Permanet Access Ch92 to Ch140	0 days	Tue 9/6/09	33 days	Tue 9/6/09	61	78,113
64	Divert all Traffic to Permanent Access Ch140 to Ch380 & VC2-3	0 days	Sun 26/7/09	12 days	Sun 26/7/09	48,53,54,55,56	67,77,65,44,66
65	Removal of Temporary Acces at North Bank of Bay 4-Bay 14	14 days	Mon 27/7/09	3 days	Sun 9/8/09	59,64	227FS+14 days,369
66	Remove existing pavement Ch160 - Ch320	5 days	Mon 27/7/09	20 days	Fri 31/7/09	64	70,71,72
67	Removal of Temporary Access from Ch330 to Ch380(South Bank)	7 days	Mon 27/7/09	18 days	Sun 2/8/09	64	73,75,234
68	Construct Temporary Area for AFCD Car Park	4 days	Wed 17/6/09	33 days	Sat 20/6/09	78	87
69	**Drainage Works**	**45 days**	**Sat 1/8/09**	**33 days**	**Mon 14/9/09**		**233,234**
70	Construct Catchpit CP2-3 and U-channel	3 days	Sat 1/8/09	27 days	Mon 3/8/09	66	
71	Construct remaining pipes towards CP2-4A and the catchpit	3 days	Sat 1/8/09	27 days	Mon 3/8/09	66	
72	Construct catchpit CP2-4 and U-channel CP2-4.1	10 days	Sat 5/9/09	33 days	Mon 14/9/09	66,77	
73	Construct Outlet 2-1	7 days	Mon 3/8/09	18 days	Sun 9/8/09	67	74
74	Construct U-channel CP2-4A.1	3 days	Mon 10/8/09	18 days	Wed 12/8/09	73	
75	Construct Remaining U-channel CP2-4A.2	2 days	Mon 3/8/09	26 days	Tue 4/8/09	67	
76	**Waterworks**	**87 days**	**Wed 10/6/09**	**12 days**	**Fri 4/9/09**		**88**
77	Construct Watermain from Ch180 to Ch340	40 days	Mon 27/7/09	12 days	Fri 4/9/09	64	72,81,110
78	Construct Watermain Ch92- Ch140	7 days	Wed 10/6/09	33 days	Tue 16/6/09	63	68
79	**Construct the Permanent Road Pavement**	**58 days**	**Fri 31/7/09**	**41 days**	**Sat 26/9/09**		
80	Ch310 - Ch330 (Panel No. RA19b)	4 days	Fri 31/7/09	33 days	Mon 3/8/09	44	82
81	Construct drawpit and cable duct Ch180-Ch355	8 days	Sat 5/9/09	12 days	Sat 12/9/09	77	110,82
82	Construct Pedestrian, Ch180-355	14 days	Sun 13/9/09	41 days	Sat 26/9/09	81,80	113
83	**Stage 4**	**99 days**	**Sun 21/6/09**	**33 days**	**Sun 27/9/09**		
84	**Drainage Works**	**5 days**	**Sun 13/9/09**	**165 days**	**Fri 18/9/09**		
85	Construct remaining U-channel CP2-3.1	5 days	Sun 13/9/09	83 days	Fri 18/9/09	90SF	
86	**Waterworks**	**99 days**	**Sun 21/6/09**	**33 days**	**Sun 27/9/09**		
87	Construct Watermain Ch140 - Ch180	7 days	Sun 21/6/09	33 days	Sat 27/6/09	68	88,92,99
88	Testing to Completed Watermain	13 days	Sat 5/9/09	12 days	Thu 17/9/09	76,87	90
89	Request WSD to Connect Dia200 Watermain at four ends	30 days	Wed 19/8/09	83 days	Fri 18/9/09	90SF	
90	Connection of Watermain by WSD near San Tam Road, Cheung Chun San Tsuen and AFCD (four points)	10 days	Fri 18/9/09	12 days	Sun 27/9/09	88	85SF,89SF,97,95,98
91	**Construct the Permanent Road Pavement**	**7 days**	**Sun 28/6/09**	**47 days**	**Sat 4/7/09**		
92	AFCD Entrance (Panel Nos. RA10b and 10c)	7 days	Sun 28/6/09	47 days	Sat 4/7/09	87	107,112
93	**Stage 5**	**99 days**	**Sun 28/6/09**	**13 days**	**Sun 4/10/09**		**113**
94	**Drainage Works**	**5 days**	**Mon 28/9/09**	**35 days**	**Fri 2/10/09**		
95	Construct remaining U-channel CP2-1A.1	5 days	Mon 28/9/09	35 days	Fri 2/10/09	90	
96	**Construct the Permanent Road Pavement**	**7 days**	**Mon 28/9/09**	**12 days**	**Sun 4/10/09**		
97	Ch0 - Ch40 (Panel No. RA1, RA2 , RA3)	7 days	Mon 28/9/09	12 days	Sun 4/10/09	90	103,105,111,106,101
98	Ch80-Ch92 (Panel Nos. RA6, RA7b, RA8b)	3 days	Mon 28/9/09	16 days	Wed 30/9/09	90	103,105,111,106
99	Construction the Pedestrian Ch160-Ch180	7 days	Sun 28/6/09	57 days	Sat 4/7/09	87	233
100	**Stage 6**	**18 days**	**Mon 5/10/09**	**12 days**	**Thu 22/10/09**		**113**
101	Removal of Temporary access from Ch0 to Ch92	3 days	Mon 5/10/09	27 days	Wed 7/10/09	97	105
102	**Drainage Works**	**14 days**	**Mon 5/10/09**	**19 days**	**Sun 18/10/09**		
103	Construct remaining U-channel CP2-1.1 & CP2-1.2	14 days	Mon 5/10/09	19 days	Sun 18/10/09	97,98,40	369
104	**Construct the Permanent Road Pavement**	**3 days**	**Thu 8/10/09**	**27 days**	**Sat 10/10/09**		

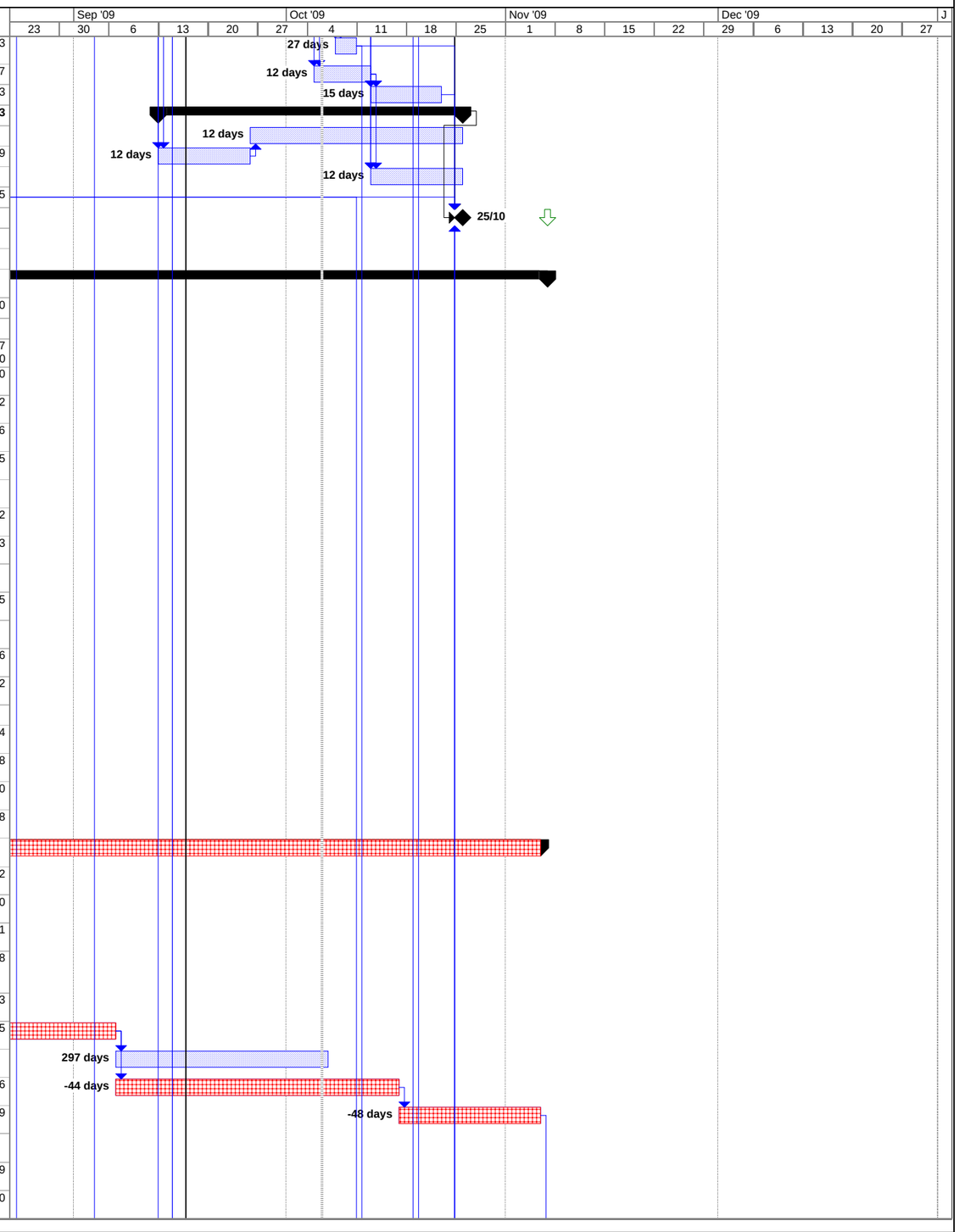


Project: Three-month Rolled Program (Aug - Oct 2009)
Date: Tue 6/10/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

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

ID	Task Name	Duration	Start	Total Slack	Finish	Predecessors	Successors
105	Construct By-Pass at Ch0-Ch20 (Panel Nos. RA2b and RA3b)	3 days	Thu 8/10/09	27 days	Sat 10/10/09	97,98,101	365,113
106	Construct the drawpit and cable duct Ch40-Ch140	8 days	Mon 5/10/09	12 days	Mon 12/10/09	97,98	111,107
107	Construct Pedestrian, Ch0-Ch140	10 days	Tue 13/10/09	15 days	Thu 22/10/09	92,106	113
108	**LCEL erect light poles and laying cable**	**43 days**	**Sun 13/9/09**	**12 days**	**Sun 25/10/09**		**113**
109	Request LCEL to erect poles and lay cable	30 days	Sat 26/9/09	12 days	Sun 25/10/09	110	
110	Ch160 - Ch380	13 days	Sun 13/9/09	12 days	Fri 25/9/09	77,81	109
111	Ch0-Ch140	13 days	Tue 13/10/09	12 days	Sun 25/10/09	97,98,106	
112	Construction of Slope adjacent to AFCD's Pond	30 days	Sun 5/7/09	47 days	Mon 3/8/09	92	113,365
113	Completion of Portion 1 and Portion 2	0 days	Sun 25/10/09	12 days	Sun 25/10/09	62,63,93,100,108,42,	
114							
115							
116	**Construction of Road and Channel in Vicinity of Crossing VC2-1**	**278 days**	**Mon 2/2/09**	**50 days**	**Fri 6/11/09**		
117	Completion of Channel Bay 71 to Bay 73	1 day	Mon 2/2/09	2 days	Mon 2/2/09		119,120
118	**Stage 1**	**141 days**	**Tue 3/2/09**	**2 days**	**Tue 23/6/09**		
119	Backfill up to Road Formation	40 days	Tue 3/2/09	2 days	Sat 14/3/09	117	121SS+7 days,122,130
120	Demolishing part of existing road pavement at South Bank	3 days	Tue 3/2/09	87 days	Thu 5/2/09	117	122,130
121	Construct Drainage Pipe and catchpit at west side of road	15 days	Tue 10/2/09	68 days	Tue 24/2/09	119SS+7 days	133,122
122	Construct Watermain	30 days	Mon 4/5/09	-44 days	Tue 2/6/09	119,120,121	123,136,133,126
123	Testing to Watermain	11 days	Wed 3/6/09	7 days	Sat 13/6/09	122	125
124	Request WSD to connect watermain	30 days	Fri 15/5/09	261 days	Sun 14/6/09	125SF	
125	Connect new watermain to existing watermain by WSD	10 days	Sun 14/6/09	7 days	Tue 23/6/09	123	124SF,142
126	Construct new cable duct and pit for public lighting	10 days	Wed 3/6/09	-44 days	Fri 12/6/09	122,130	128,133
127	Request LCEL to relocate pole and laying new cable	30 days	Thu 14/5/09	262 days	Sat 13/6/09	128SF	
128	relocate light pole VA5367 and laying new cable by LCEL	10 days	Sat 13/6/09	47 days	Mon 22/6/09	126	127SF,135
129	Request PCCW to construct new cable and pit	30 days	Sun 8/3/09	238 days	Tue 7/4/09	130SF	
130	Construct PCCW cable and pit(by PCCW)	10 days	Tue 7/4/09	45 days	Thu 16/4/09	119,120	129SF,131,126
131	Laying New Cable and Removal of PCCW's temporary overhead cable and poles	30 days	Fri 17/4/09	45 days	Sat 16/5/09	130	142
132	**Stage 2**	**28 days**	**Wed 3/6/09**	**10 days**	**Tue 30/6/09**		
133	Construct the permanent road pavement Panel No. RB29, RB28, RB27, RB26a RB26b	15 days	Sat 13/6/09	-44 days	Sat 27/6/09	121,122,126	134
134	Curing of Permanent road	3 days	Sun 28/6/09	-44 days	Tue 30/6/09	133	138
135	Demolishing part of existing road pavement at North Bank	6 days	Tue 23/6/09	47 days	Sun 28/6/09	128	140
136	Construct two new temporary accesses	5 days	Wed 3/6/09	23 days	Sun 7/6/09	122	138
137	**Stage 3**	**128 days**	**Tue 30/6/09**	**-48 days**	**Thu 5/11/09**		
138	Divert Traffic to cosntructed permanent road pavement and new temporary access	0 days	Tue 30/6/09	-44 days	Tue 30/6/09	134,136	139,142
139	Removal of remaining part of pavement near "Pet World"	3 days	Wed 1/7/09	42 days	Fri 3/7/09	138	140
140	Construct the remaining drainage pipe and catchpit near "Pet World"	7 days	Sat 4/7/09	42 days	Fri 10/7/09	135,139	141
141	Constrcut the remaining part of permanent road pavement near "Pet World" (Panel Nos. RB30, RB31a&b, RB32a&b, RB33a-d, RB34a&b, RB35a&b))	20 days	Sat 11/7/09	42 days	Thu 30/7/09	140	148
142	Removel of temporary access at Channel Bay74	5 days	Wed 1/7/09	-44 days	Sun 5/7/09	125,138,131	143
143	Construct the Channel Bay 74 and Bay 75	63 days	Mon 6/7/09	-44 days	Sun 6/9/09	142	144,145
144	Construct on gabion inside Bay 74 and 75	30 days	Mon 7/9/09	297 days	Tue 6/10/09	143	
145	Backfilling to Final Ground Level	40 days	Mon 7/9/09	-44 days	Fri 16/10/09	143	146
146	Construct the U-channel and handrailing near bay 74 and 75	20 days	Sat 17/10/09	-48 days	Thu 5/11/09	145	239
147	**Stage 4**	**9 days**	**Thu 30/7/09**	**42 days**	**Sat 8/8/09**		
148	Divert traffic to all completed new road pavement	0 days	Thu 30/7/09	42 days	Thu 30/7/09	141	149
149	Removal of the new temporay access	5 days	Fri 31/7/09	42 days	Tue 4/8/09	148	150



Project: Three-month Rolled Program (Aug - Oct 2009)
Date: Tue 6/10/09

Task | Progress | Summary | External Tasks | Deadline
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PROGRAMME OF WORKS - RP26
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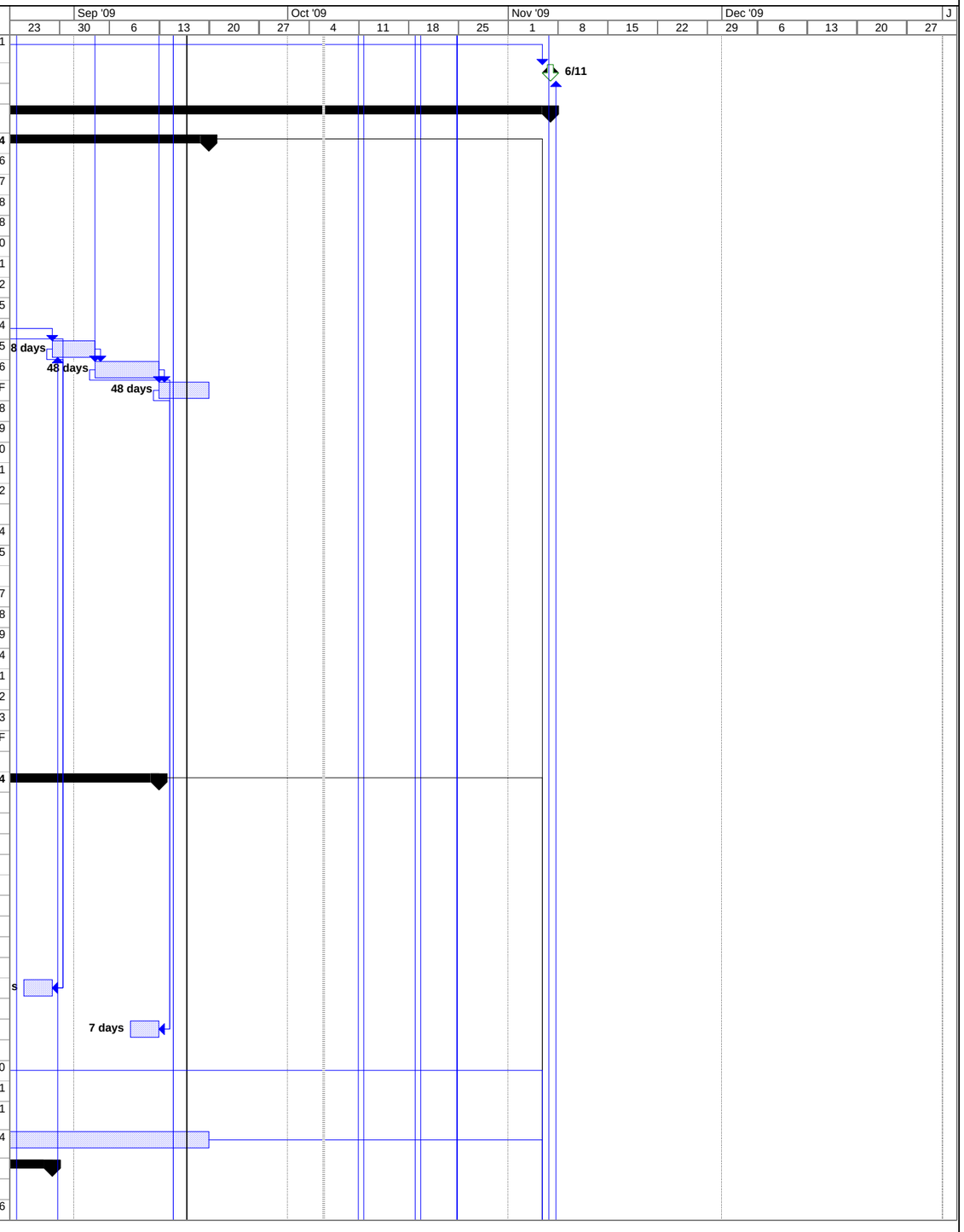
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

ID	Task Name	Duration	Start	Total Slack	Finish	Predecessors	Successors
150	Construct 375 U-channel under new temporary access	4 days	Wed 5/8/09	42 days	Sat 8/8/09	149	151
151	Completion of Portion 3	0 days	Fri 6/11/09	0 days	Fri 6/11/09	150,239	
152							
153	**Area except the Chenng Chun San Tsuen access and VC2-1 access**	**953 days**	**Fri 30/3/07**	**224 days**	**Fri 6/11/09**		
154	**U-channel**	**166 days**	**Tue 7/4/09**	**48 days**	**Sat 19/9/09**		**224**
155	CP2-16.1(600U, 35m)	10 days	Tue 7/4/09	85 days	Thu 16/4/09		156
156	CP2-8A.1(375U, 55m)	10 days	Wed 13/5/09	59 days	Fri 22/5/09	155,210	193SF,157
157	CP2-7.2(375U, 44m)	6 days	Sat 6/6/09	45 days	Thu 11/6/09	156,212	194SF,158
158	CP2-7.1(375U, 16m)	2 days	Fri 12/6/09	45 days	Sat 13/6/09	157,212	194SF,159,228
159	CP2-7A.2(375U, 26m)	4 days	Thu 18/6/09	41 days	Sun 21/6/09	158,213	196SF,160
160	CP2-7A.1(375U, 51m)	8 days	Tue 30/6/09	33 days	Tue 7/7/09	159,214	196SF,161
161	CP2-5A.1(375U, 18m)	3 days	Wed 8/7/09	33 days	Fri 10/7/09	160,214	198SF,162
162	CP2-9.1(600U, 58m)	8 days	Thu 30/7/09	14 days	Thu 6/8/09	161,220	163,235
163	CP2-6.2(375U, 59m)	8 days	Fri 14/8/09	7 days	Fri 21/8/09	162,221	195SF,164
164	CP2-6.1(750U, 29m)	6 days	Sat 29/8/09	48 days	Thu 3/9/09	163,222	195SF,165
165	CP2-5.2(600U, 47m)	9 days	Fri 4/9/09	48 days	Sat 12/9/09	164,37	197SF,166
166	CP2-5.1(375U, 34m)	7 days	Sun 13/9/09	48 days	Sat 19/9/09	165,37	197SF
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)	6 days	Thu 7/5/09	100 days	Tue 12/5/09	167	169,229
169	CP2-14B.1(375U, 4m)	2 days	Wed 13/5/09	100 days	Thu 14/5/09	168	192SF,170
170	CP2-14B.2(600U, 18m)	3 days	Fri 15/5/09	100 days	Sun 17/5/09	169	192SF,171
171	CP2-14C.1(375U, 20m)	4 days	Mon 18/5/09	100 days	Thu 21/5/09	170	172
172	CP2-12.1(375U, 34m)	6 days	Fri 22/5/09	115 days	Wed 27/5/09	171	
173	CP2-19C.2(450U,30m)	4 days	Sun 17/5/09	116 days	Wed 20/5/09	205	191SF,174
174	CP2-19C.1(450U,20m)	4 days	Thu 21/5/09	116 days	Sun 24/5/09	173	191SF,175
175	Inlet 2-3.1(450U, 11m)	2 days	Mon 25/5/09	116 days	Tue 26/5/09	174	
176	CP2-19B.1(600U, 38m)	8 days	Sat 6/6/09	63 days	Sat 13/6/09	216	190SF,177
177	CP2-19A.2(450U, 26m)	4 days	Sun 14/6/09	63 days	Wed 17/6/09	176	189SF,199,178
178	CP2-19A.1,(450U, 22m)	4 days	Thu 18/6/09	74 days	Sun 21/6/09	177	189SF,179
179	CP2-18.1(450U, 41m)	8 days	Mon 22/6/09	74 days	Mon 29/6/09	178	187SF,184
180	CP2-19.1(600U, 26m)	6 days	Thu 16/7/09	48 days	Tue 21/7/09	217	188SF,181
181	CP2-19.2(375U, 10m)	2 days	Wed 22/7/09	48 days	Thu 23/7/09	180	188SF,182
182	CP2-18A.1(375U,35m)	6 days	Fri 24/7/09	48 days	Wed 29/7/09	181	186SF,183
183	CP2-18A.2(450U,26m)	4 days	Thu 30/7/09	48 days	Sun 2/8/09	182	186SF
184	CP2-0.1(375U, 51m)	8 days	Tue 30/6/09	74 days	Tue 7/7/09	179	
185	**Catchpit**	**127 days**	**Sat 9/5/09**	**7 days**	**Sun 13/9/09**		**224**
186	CP2-18A	4 days	Sun 26/7/09	52 days	Thu 30/7/09	182SF,183SF	
187	CP2-18	4 days	Thu 18/6/09	90 days	Mon 22/6/09	179SF	
188	CP2-19	4 days	Sat 18/7/09	60 days	Wed 22/7/09	180SF,181SF	
189	CP2-19A	4 days	Sun 14/6/09	94 days	Thu 18/6/09	177SF,178SF	
190	CP2-19B	4 days	Tue 2/6/09	106 days	Sat 6/6/09	176SF	
191	CP2-19C	4 days	Sun 17/5/09	122 days	Thu 21/5/09	173SF,174SF	
192	CP2-14B	4 days	Mon 11/5/09	128 days	Fri 15/5/09	169SF,170SF	
193	CP2-8A	4 days	Sat 9/5/09	130 days	Wed 13/5/09	156SF	
194	CP2-7	4 days	Mon 8/6/09	100 days	Fri 12/6/09	157SF,158SF	
195	CP2-6	4 days	Tue 25/8/09	22 days	Sat 29/8/09	163SF,164SF	
196	CP2-7A	4 days	Fri 26/6/09	82 days	Tue 30/6/09	159SF,160SF	
197	CP2-5	4 days	Wed 9/9/09	7 days	Sun 13/9/09	165SF,166SF	
198	CP2-5A	4 days	Sat 4/7/09	74 days	Wed 8/7/09	161SF	
199	New retaining wall near abondoned home	20 days	Thu 18/6/09	63 days	Tue 7/7/09	177	224,240
200	New Retaining wall near Ramp No.1	30 days	Fri 1/5/09	14 days	Sat 30/5/09		201
201	Laying Sub-base to Road B (Ch800 to Ch1145 only, Total Panel number =34)	30 days	Sun 14/6/09	48 days	Mon 13/7/09	200,207SS+10 days	231
202	Concreting Road B (Ch800 to Ch1145 only, Total Panel number =34)	40 days	Tue 11/8/09	48 days	Sat 19/9/09	231	224
203	**Filling platform**	**883 days**	**Fri 30/3/07**	**185 days**	**Fri 28/8/09**		
204	**North Bank**	**118 days**	**Tue 7/4/09**	**48 days**	**Sun 2/8/09**		
205	Bay 84c-Bay 80	40 days	Tue 7/4/09	48 days	Sat 16/5/09		173,216



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Contract No. : DC / 2006 / 02
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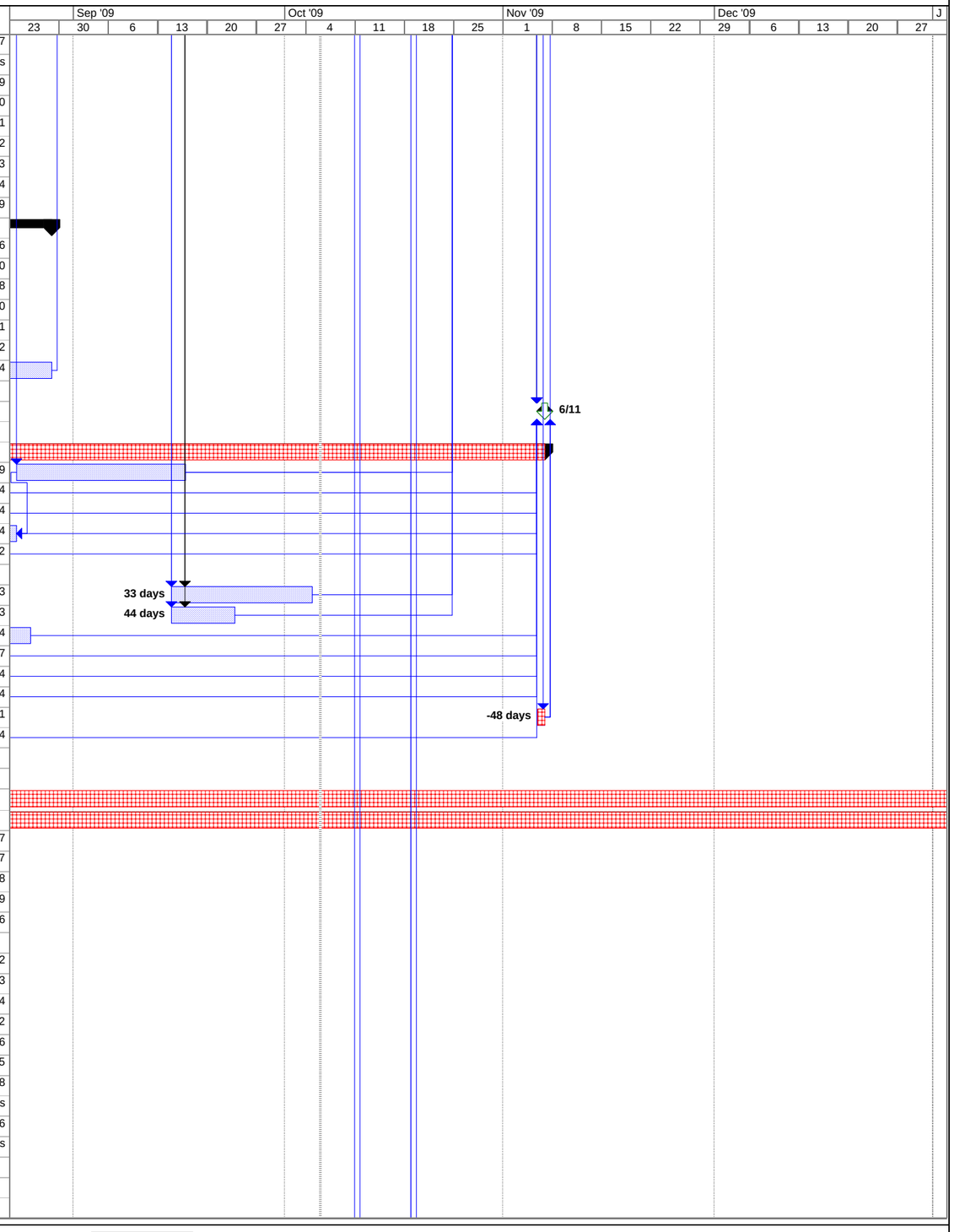
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

ID	Task Name	Duration	Start	Total Slack	Finish	Predecessors	Successors
206	Bay 79-Bay 76	20 days	Sat 6/6/09	48 days	Thu 25/6/09	216	217
207	Bay 56a1-Bay 71	60 days	Thu 4/6/09	48 days	Sun 2/8/09	218,289	201SS+10 days
208	Bay 54-Bay 52	12 days	Tue 7/4/09	48 days	Sat 18/4/09		209
209	Bay 51-Bay 49	12 days	Sun 19/4/09	48 days	Thu 30/4/09	208	210
210	Bay 48-Bay 46	12 days	Fri 1/5/09	48 days	Tue 12/5/09	209	156,211
211	Bay 45-Bay 43	12 days	Wed 13/5/09	48 days	Sun 24/5/09	210	212
212	Bay 42-Bay 40	12 days	Mon 25/5/09	48 days	Fri 5/6/09	211	157,158,213
213	Bay 39-Bay 37	12 days	Sat 6/6/09	48 days	Wed 17/6/09	212	159,214
214	Bay 36-Bay 33	12 days	Thu 18/6/09	48 days	Mon 29/6/09	213	160,161,219
215	**South Bank**	**883 days**	**Fri 30/3/07**	**185 days**	**Fri 28/8/09**		
216	Bay 84c- Bay 80	20 days	Sun 17/5/09	48 days	Fri 5/6/09	205	176,206
217	Bay 80-Bay 76	20 days	Fri 26/6/09	48 days	Wed 15/7/09	206	180
218	Bay 56a1-Bay 71	51 days	Sun 5/4/09	9 days	Mon 25/5/09		207,238
219	Bay 48-Bay 46	15 days	Tue 30/6/09	48 days	Tue 14/7/09	214	220
220	Bay 45-Bay 43	15 days	Wed 15/7/09	48 days	Wed 29/7/09	219	162,221
221	Bay 42-Bay 40	15 days	Thu 30/7/09	48 days	Thu 13/8/09	220	163,222
222	Bay 39-Bay 37	15 days	Fri 14/8/09	48 days	Fri 28/8/09	221	164
223	Bay 36-Bay 33	15 days	Fri 30/3/07	950 days	Fri 13/4/07		
224	Completion of Portion 3	0 days	Fri 6/11/09	0 days	Fri 6/11/09	154,185,199,228,229	
225							
226	**Planting Trees**	**178 days**	**Wed 13/5/09**	**-48 days**	**Fri 6/11/09**		
227	Bay 2-Bay 9, North Bank, 48 trees	24 days	Mon 24/8/09	3 days	Wed 16/9/09	65FS+14 days	230SF,113,369
228	Bay 41-Bay 42, North Bank, 7 trees	3 days	Sun 14/6/09	95 days	Tue 16/6/09	158	224
229	Bay 54& Bay 55d, North Bank, 13 trees	7 days	Wed 13/5/09	123 days	Tue 19/5/09	168	224
230	Bay 56c1, North Bank, 8 trees	4 days	Thu 20/8/09	27 days	Mon 24/8/09	227SF	224
231	Bay 64-Bay 72b, North Bank, 56 trees	28 days	Tue 14/7/09	48 days	Mon 10/8/09	201	224,367,202
232							
233	Bay 7-Bay 27, South Bank, 40 trees	20 days	Tue 15/9/09	33 days	Sun 4/10/09	99,69	113
234	Bay 30-Bay 33, South Bank, 17 trees	9 days	Tue 15/9/09	44 days	Wed 23/9/09	67,69	113
235	Bay 40-Bay 53, South Bank, 38 trees	19 days	Fri 7/8/09	25 days	Tue 25/8/09	162	224
236	Bay 56a2, South Bank, 42 trees	21 days	Mon 15/6/09	50 days	Sun 5/7/09		224,237
237	Bay 57-Bay 66a, South Bank, 52 trees	26 days	Mon 6/7/09	50 days	Fri 31/7/09	236	224
238	Bay 68c-Bay 72a, South Bank, 26 trees	13 days	Tue 26/5/09	104 days	Sun 7/6/09	218	224
239	Bay 74-Bay 78, South Bank, 13 trees	1 day	Fri 6/11/09	-48 days	Fri 6/11/09	146	224,151
240	Bay 79-Bay 83c, South Bank, 22 trees	11 days	Wed 8/7/09	63 days	Sat 18/7/09	199	224
241							
242							
243	**Section II of the Works**	**1177 days**	**Fri 30/3/07**	**0 days**	**Fri 18/6/10**		
244	**Kam Sheung Road Upstream**	**1177 days**	**Fri 30/3/07**	**0 days**	**Fri 18/6/10**		
245	Construction of Gabion at Bay 56 -Bay 62	26 days	Sat 28/3/09	111 days	Wed 22/4/09		247
246	Pump Stream from Bay 49 to Bay 46	0 days	Thu 23/4/09	39 days	Thu 23/4/09		254,273,274,247
247	Construrction of Gabion at Bay 49	5 days	Thu 23/4/09	111 days	Mon 27/4/09	245,246	248
248	Inspecion of New channel Bay 49- Bay 63 by DSD	14 days	Tue 28/4/09	111 days	Mon 11/5/09	247	249
249	Divert Stream to New Channel	0 days	Mon 11/5/09	111 days	Mon 11/5/09	248	276
250	**Drainage Works**	**850 days**	**Fri 30/3/07**	**33 days**	**Sun 26/7/09**		
251	CP Inlet 15-4	8 days	Fri 30/3/07	717 days	Fri 6/4/07		252
252	MH15 F	25 days	Tue 24/3/09	31 days	Fri 17/4/09	251	253
253	MH15 E	13 days	Sat 18/4/09	31 days	Thu 30/4/09	252,272	254
254	CP15-8A	12 days	Fri 1/5/09	31 days	Tue 12/5/09	246,253	255,263,262
255	Outlet 15-3	12 days	Wed 13/5/09	31 days	Sun 24/5/09	254	256
256	CP15-5	15 days	Mon 25/5/09	31 days	Mon 8/6/09	255	257,264,265
257	Inlet 15-3	15 days	Tue 9/6/09	31 days	Tue 23/6/09	256	258
258	MH15 C	15 days	Wed 24/6/09	31 days	Wed 8/7/09	257	6,278,282FS+7 days
259	CP15-7	9 days	Thu 9/7/09	33 days	Fri 17/7/09	258	260,266
260	CP15-6	9 days	Sat 18/7/09	33 days	Sun 26/7/09	259	9,268,286FS+7 days
261	**U-channel**	**97 days**	**Wed 13/5/09**	**196 days**	**Mon 17/8/09**		
262	CP15-8A.2	15 days	Wed 13/5/09	175 days	Wed 27/5/09	254,272	
263	CP15-8A.1	8 days	Wed 13/5/09	182 days	Wed 20/5/09	254,273	

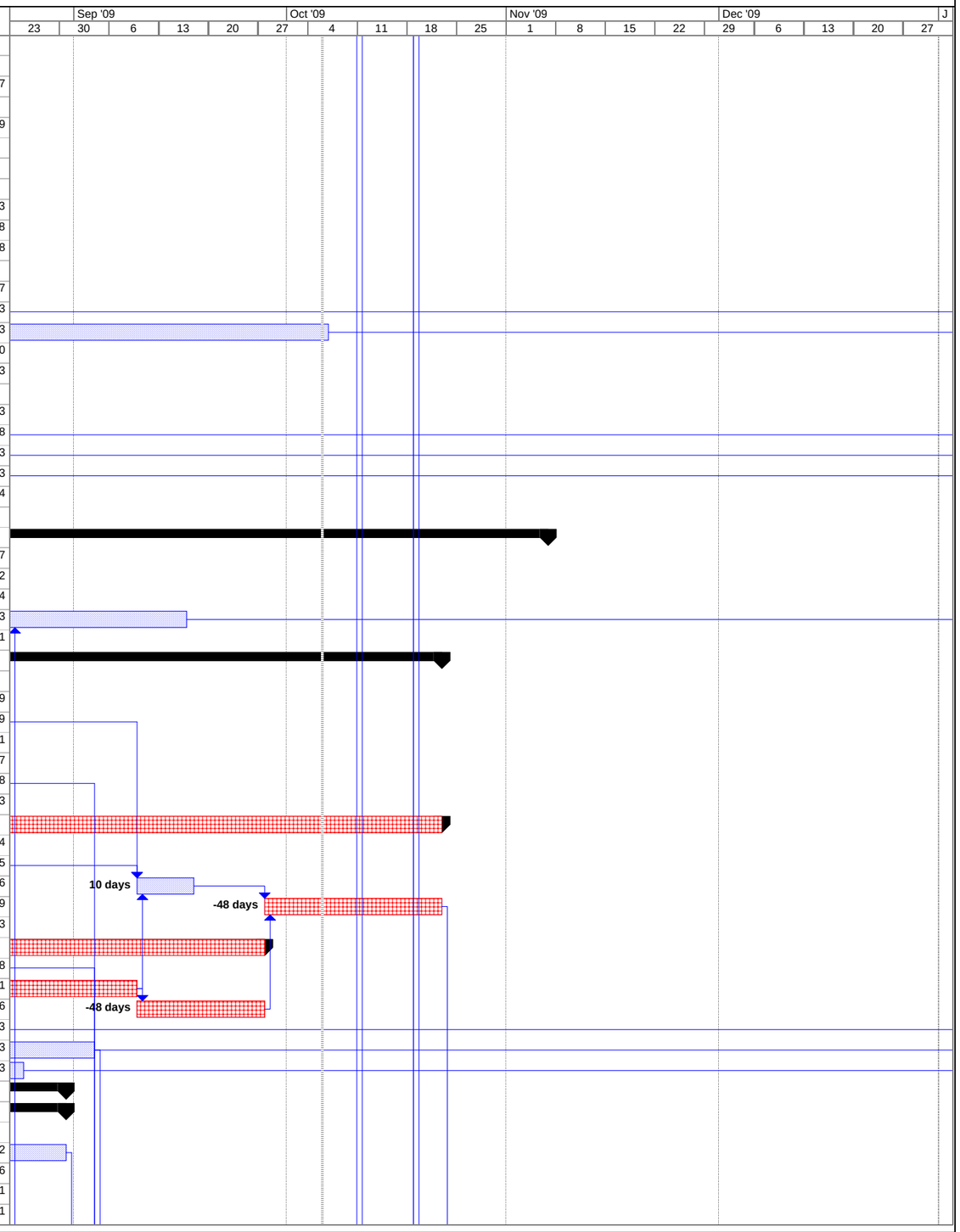


Project: Three-month Rolled Program (Aug - Oct 2009)
Date: Tue 6/10/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

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

ID	Task Name	Duration	Start	Total Slack	Finish	Predecessors	Successors
264	CP15-5.2	5 days	Tue 9/6/09	261 days	Sat 13/6/09	256,273	
265	CP15-5.1	3 days	Tue 9/6/09	263 days	Thu 11/6/09	256,273	
266	CP15-7.2	4 days	Sun 19/7/09	207 days	Wed 22/7/09	259,276	267
267	CP15-7.1	15 days	Thu 23/7/09	207 days	Thu 6/8/09	266	
268	CP15-6.2	15 days	Wed 29/7/09	196 days	Wed 12/8/09	260,277	269
269	CP15-6.1	5 days	Thu 13/8/09	196 days	Mon 17/8/09	260,268	
270	**Backfilling**	**852 days**	**Fri 30/3/07**	**53 days**	**Tue 28/7/09**		
271	**North Bank**	**795 days**	**Fri 30/3/07**	**20 days**	**Mon 1/6/09**		
272	Bay 49-Bay 56	14 days	Fri 30/3/07	736 days	Thu 12/4/07		253,262,273
273	Bay 44-48	18 days	Thu 23/4/09	20 days	Sun 10/5/09	246,272	263,264,265,274,278
274	Bay 37-Bay 43	22 days	Mon 11/5/09	20 days	Mon 1/6/09	246,273	278
275	**South Bank**	**20 days**	**Thu 9/7/09**	**53 days**	**Tue 28/7/09**		
276	Bay 55- Bay 58	10 days	Thu 9/7/09	53 days	Sat 18/7/09	249,258	266,277
277	Bay 47a - Bay 54	10 days	Sun 19/7/09	53 days	Tue 28/7/09	276	268,343
278	Road Construction(Panel Nos. RD2 - RD15C)	90 days	Thu 9/7/09	31 days	Tue 6/10/09	258,273,274	343
279	Diversion of CLP's cable on Kam Sheung Road	0 days	Fri 30/4/10	-284 days	Fri 30/4/10		280
280	Road Construction on Kam Sheung Road	50 days	Fri 30/4/10	-272 days	Fri 18/6/10	279	343
281	**Planting of Trees**	**78 days**	**Mon 1/6/09**	**33 days**	**Mon 17/8/09**		
282	Bay 38 - Bay 43, North Bank, 28 trees	14 days	Thu 16/7/09	39 days	Wed 29/7/09	258FS+7 days	283
283	Bay 47b - Bay 55, North Bank, 26 trees	13 days	Thu 30/7/09	39 days	Tue 11/8/09	282	343,368
284	Bay 55 - Bay 58, North Bank, 20 trees	10 days	Sat 8/8/09	33 days	Mon 17/8/09	286	343
285	Bay 37 - Bay 42b, South Bank, 19 trees	10 days	Mon 1/6/09	101 days	Wed 10/6/09		343
286	Bay 50 - Bay 55, South Bank, 10 trees	5 days	Mon 3/8/09	33 days	Fri 7/8/09	260FS+7 days	284
287							
288	**Kam Sheung Road Dowstream**	**953 days**	**Fri 30/3/07**	**115 days**	**Fri 6/11/09**		
289	Completion of Kam Po Road	15 days	Wed 20/5/09	34 days	Wed 3/6/09	293	312FF,290,207
290	Removal of Temporary Access	10 days	Thu 4/6/09	34 days	Sat 13/6/09	289	320,312
291	Construction of Bay 6	15 days	Sun 19/7/09	3 days	Sun 2/8/09	332,326,321	333,314
292	Construction of Gabion at Bay 6, 7 & 8	25 days	Sun 23/8/09	3 days	Wed 16/9/09	333	343
293	Completion of Bay 1	0 days	Tue 31/3/09	50 days	Tue 31/3/09		289,301
294	**North Bank**	**206 days**	**Tue 31/3/09**	**15 days**	**Thu 22/10/09**		
295	**Drainage Works**	**105 days**	**Tue 31/3/09**	**34 days**	**Mon 13/7/09**		
296	CP15-2	10 days	Fri 12/6/09	-48 days	Sun 21/6/09	350	297,309
297	CP15-2A	10 days	Mon 22/6/09	-48 days	Wed 1/7/09	296	305,303,309
298	MH15 B	8 days	Fri 15/5/09	0 days	Fri 22/5/09		351
299	CP15-1	7 days	Sat 4/7/09	37 days	Fri 10/7/09	312	307
300	CP15-01 & CP15-0	10 days	Sat 4/7/09	34 days	Mon 13/7/09	312	307,338
301	MH15-H	16 days	Tue 31/3/09	59 days	Wed 15/4/09	293	312,313
302	**U-channel and forming slope**	**101 days**	**Tue 14/7/09**	**-48 days**	**Thu 22/10/09**		
303	CP15-2.1	15 days	Fri 17/7/09	-48 days	Fri 31/7/09	297,309	304
304	CP15-2.2	20 days	Sat 1/8/09	-48 days	Thu 20/8/09	303	310,305
305	CP15-2A.1	8 days	Thu 10/9/09	10 days	Thu 17/9/09	297,304,310	306
306	CP15-2A.2	25 days	Mon 28/9/09	-48 days	Thu 22/10/09	305,311	339
307	CP15-1.1	20 days	Tue 14/7/09	34 days	Sun 2/8/09	299,300	313
308	**Backfilling**	**106 days**	**Sun 14/6/09**	**-48 days**	**Sun 27/9/09**		
309	Bay 7-Bay 11	15 days	Thu 2/7/09	-48 days	Thu 16/7/09	296,297	303,338
310	Bay 12 - Bay18	20 days	Fri 21/8/09	-48 days	Wed 9/9/09	304	305,311
311	Bay 19- Bay 27	18 days	Thu 10/9/09	-48 days	Sun 27/9/09	310	306
312	Bay 1- Bay 6	20 days	Sun 14/6/09	34 days	Fri 3/7/09	289FF,290,301	299,300,343
313	Road Construction (Panel RE1 to RE4)	32 days	Mon 3/8/09	34 days	Thu 3/9/09	301,307	338,343
314	Construction of Gabion (Bay 6-Bay 8)	22 days	Mon 3/8/09	26 days	Mon 24/8/09	291	343
315	**South Bank**	**885 days**	**Fri 30/3/07**	**183 days**	**Sun 30/8/09**		
316	**Drainage Works**	**885 days**	**Fri 30/3/07**	**183 days**	**Sun 30/8/09**		
317	Inlet 15-1	15 days	Thu 26/3/09	326 days	Thu 9/4/09	346	
318	CP15-3B	15 days	Sun 16/8/09	5 days	Sun 30/8/09	336	342
319	CP15-3	15 days	Fri 30/3/07	816 days	Fri 13/4/07		326
320	Inlet 15-B	20 days	Sun 14/6/09	3 days	Fri 3/7/09	290	332,321
321	Outlet 15-A	15 days	Sat 4/7/09	3 days	Sat 18/7/09	320	291

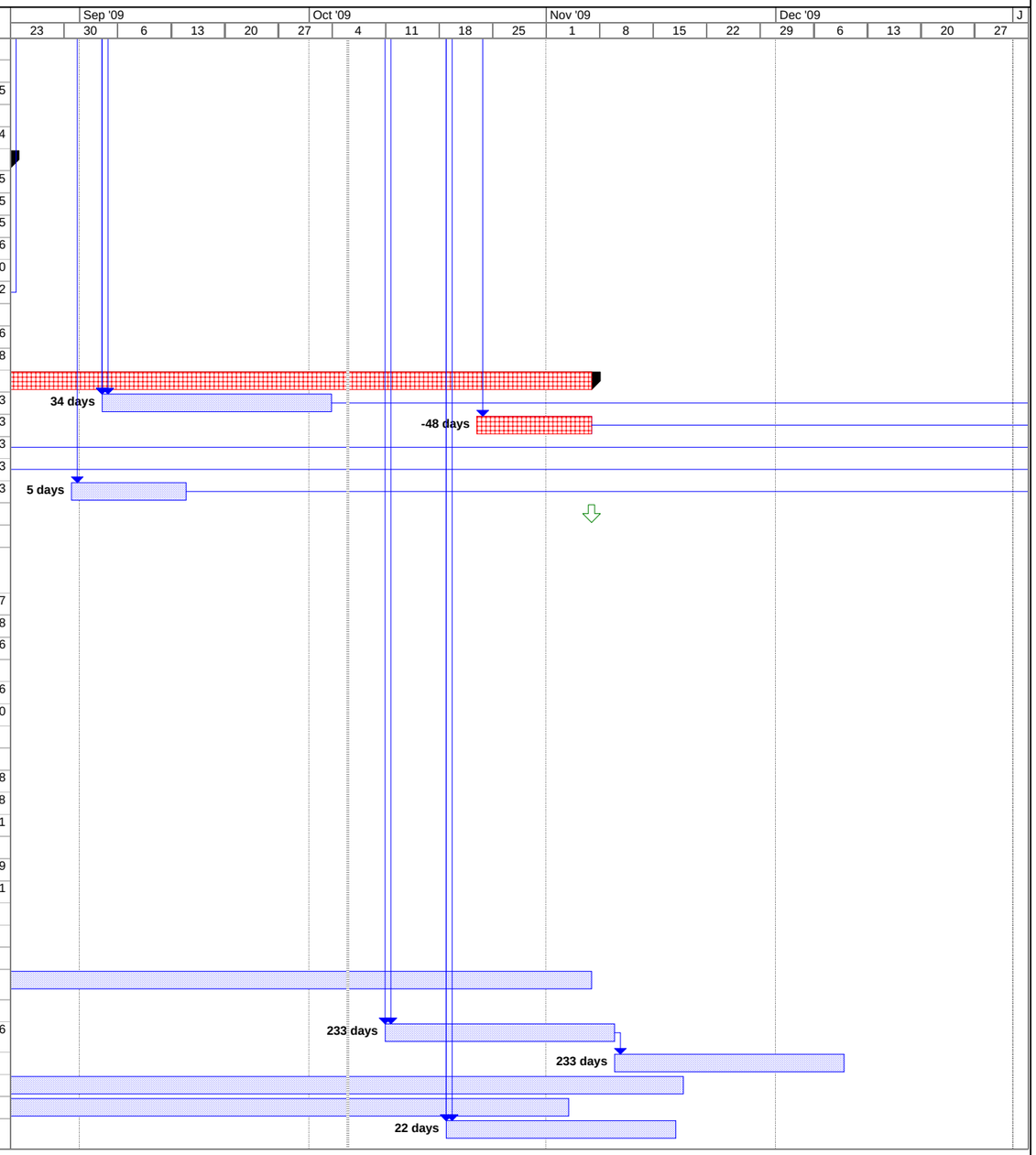


Project: Three-month Rolled Program (Aug - Oct 2009)
Date: Tue 6/10/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

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

ID	Task Name	Duration	Start	Total Slack	Finish	Predecessors	Successors
322	**U-channel and Forming Slope**	**92 days**	**Fri 10/4/09**	**89 days**	**Fri 10/7/09**		
323	CP15-3B.1	35 days	Fri 10/4/09	188 days	Thu 14/5/09	328	
324	CP15-3.2(1st section)	14 days	Sat 13/6/09	131 days	Fri 26/6/09	326	325
325	CP15-3.2(Remaing section	14 days	Sat 27/6/09	131 days	Fri 10/7/09	324	
326	CP15-3.1	14 days	Sat 30/5/09	52 days	Fri 12/6/09	319,331,335	291,341,324
327	**Backfilling**	**155 days**	**Sat 21/3/09**	**0 days**	**Sat 22/8/09**		
328	Bay 16b - Bay 23	20 days	Sat 21/3/09	0 days	Thu 9/4/09		323,329,335
329	Bay 24 - Bay 31	20 days	Fri 10/4/09	0 days	Wed 29/4/09	328	335
330	Bay 32 - Bay 35	10 days	Sat 21/3/09	30 days	Mon 30/3/09		352,335
331	Bay 7 - Bay 16a	25 days	Sat 21/3/09	97 days	Tue 14/4/09		326
332	Bay 3 - Bay 5	14 days	Sat 4/7/09	4 days	Fri 17/7/09	320	291,340
333	Bay 6	20 days	Mon 3/8/09	3 days	Sat 22/8/09	291	292
334							
335	Laid Su-base Material from Bay 20 to Bay 35	30 days	Thu 30/4/09	0 days	Fri 29/5/09	328,329,330	355,326
336	Constructing Road Pavement Bay 20- Bay 26	30 days	Fri 17/7/09	13 days	Sat 15/8/09	356	318
337	**Planting Trees**	**113 days**	**Fri 17/7/09**	**-48 days**	**Fri 6/11/09**		
338	Bay 2 - Bay 9, North Bank, 29 trees	30 days	Fri 4/9/09	34 days	Sat 3/10/09	313,309,300	343
339	Bay 13 - Bay 18, North Bank, 16 trees and 25 bamboo	15 days	Fri 23/10/09	-48 days	Fri 6/11/09	306	343
340	Bay 2 - Bay 6, South Bank, 35 trees	18 days	Sat 18/7/09	46 days	Tue 4/8/09	332	343
341	Bay 10 - Bay 11, South Bank, 8 trees and 18 bamboo	4 days	Fri 17/7/09	61 days	Mon 20/7/09	326,356	343
342	Bay 18 - Bay 26, South Bank, 29 trees	15 days	Mon 31/8/09	5 days	Mon 14/9/09	318	343
343	Completion of Portion 5	0 days	Fri 18/6/10	-224 days	Fri 18/6/10	277,278,313,312,280	
344							
345	**Section III of the Works - Portions 5A1, 5A2 a**	**116 days**	**Mon 23/3/09**	**13 days**	**Thu 16/7/09**		
346	Laying cable duct by PCCW's & HGC's Work at Kam Sheung Road	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	346	348
348	Concrete Surround to PCCW's cable ducts (By PCCW) at Kam Sheu	7 days	Fri 19/6/09	0 days	Thu 25/6/09	347,355	356
349	**Drainage Works**	**73 days**	**Tue 31/3/09**	**5 days**	**Thu 11/6/09**		
350	Outlet 15-2	10 days	Tue 2/6/09	0 days	Thu 11/6/09	351	296
351	Inlet 15-2	10 days	Sat 23/5/09	0 days	Mon 1/6/09	298	354,350
352	CP15-4A.1	10 days	Tue 31/3/09	223 days	Thu 9/4/09	330	
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	335	359,361,348
356	Constructing Road Pavement Bay 35	21 days	Fri 26/6/09	0 days	Thu 16/7/09	348	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	354	359
359	Bay 27 - Bay 35 , South Bank, 17 trees	9 days	Wed 8/7/09	0 days	Thu 16/7/09	355,358	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							
363	Section V of the Works - Preservation and protection to existing trees	953 days	Fri 30/3/07	224 days	Fri 6/11/09		
364							
365	Construction of Hard Paved Area above box cuvlert at South Bank	30 days	Sun 11/10/09	233 days	Mon 9/11/09	105,112	366
366	Erection of Fencing near Hard Paved Area	30 days	Tue 10/11/09	233 days	Wed 9/12/09	365	
367	Erection of Fencing along Channel KT2	100 days	Tue 11/8/09	21 days	Wed 18/11/09	231	
368	Erection of Fencing along Channel KT15	84 days	Wed 12/8/09	227 days	Tue 3/11/09	283	
369	Construction of Hard Paved Area above box cuvlert at North Bank	30 days	Mon 19/10/09	22 days	Tue 17/11/09	103,65,227	



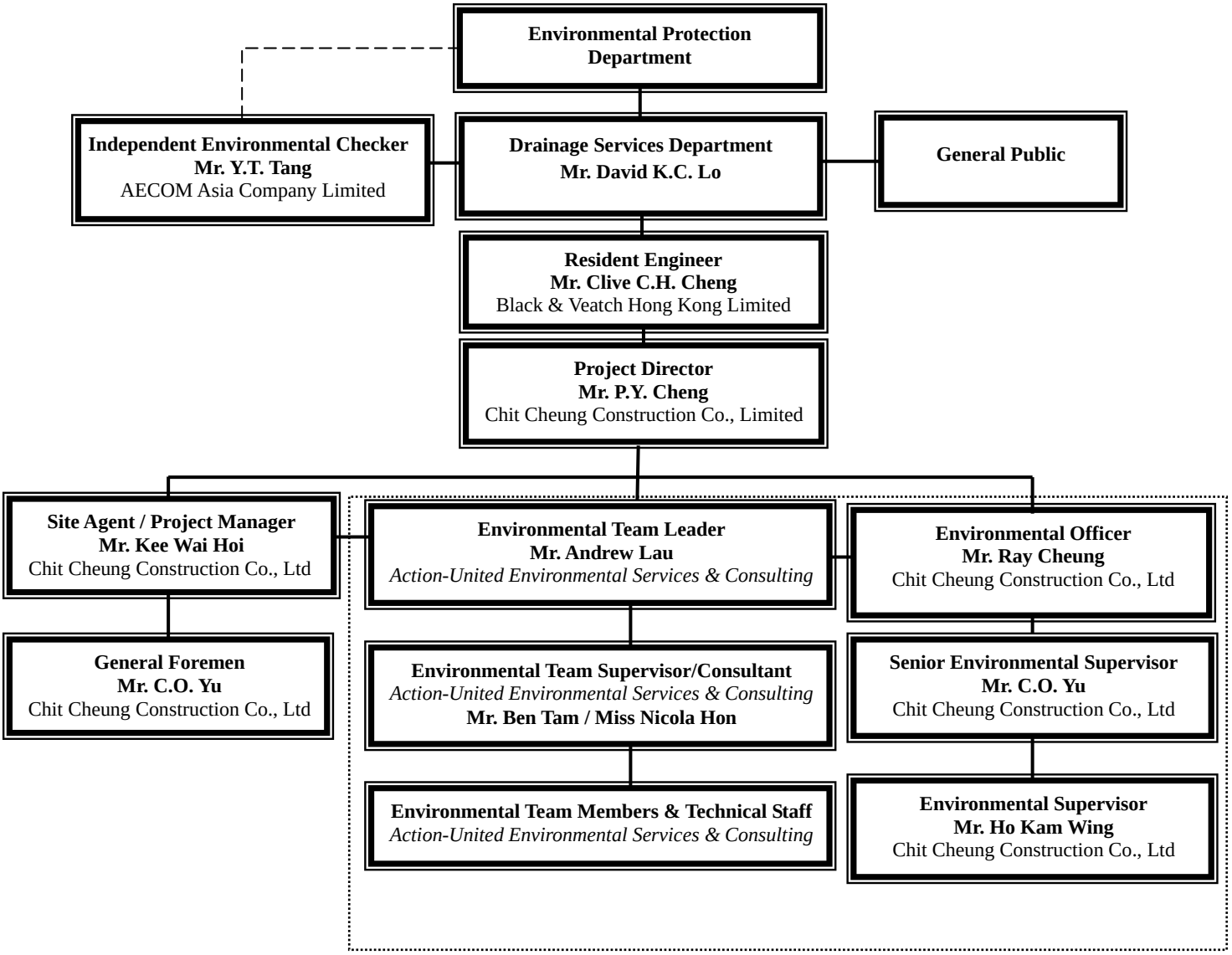
Project: Three-month Rolled Program (Aug - Oct 2009)
Date: Tue 6/10/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

APPENDIX C

ENVIRONMENTAL ORGANIZATION STRUCTURE

Environmental Organization Structure



Contractor's Environmental Team (CET)

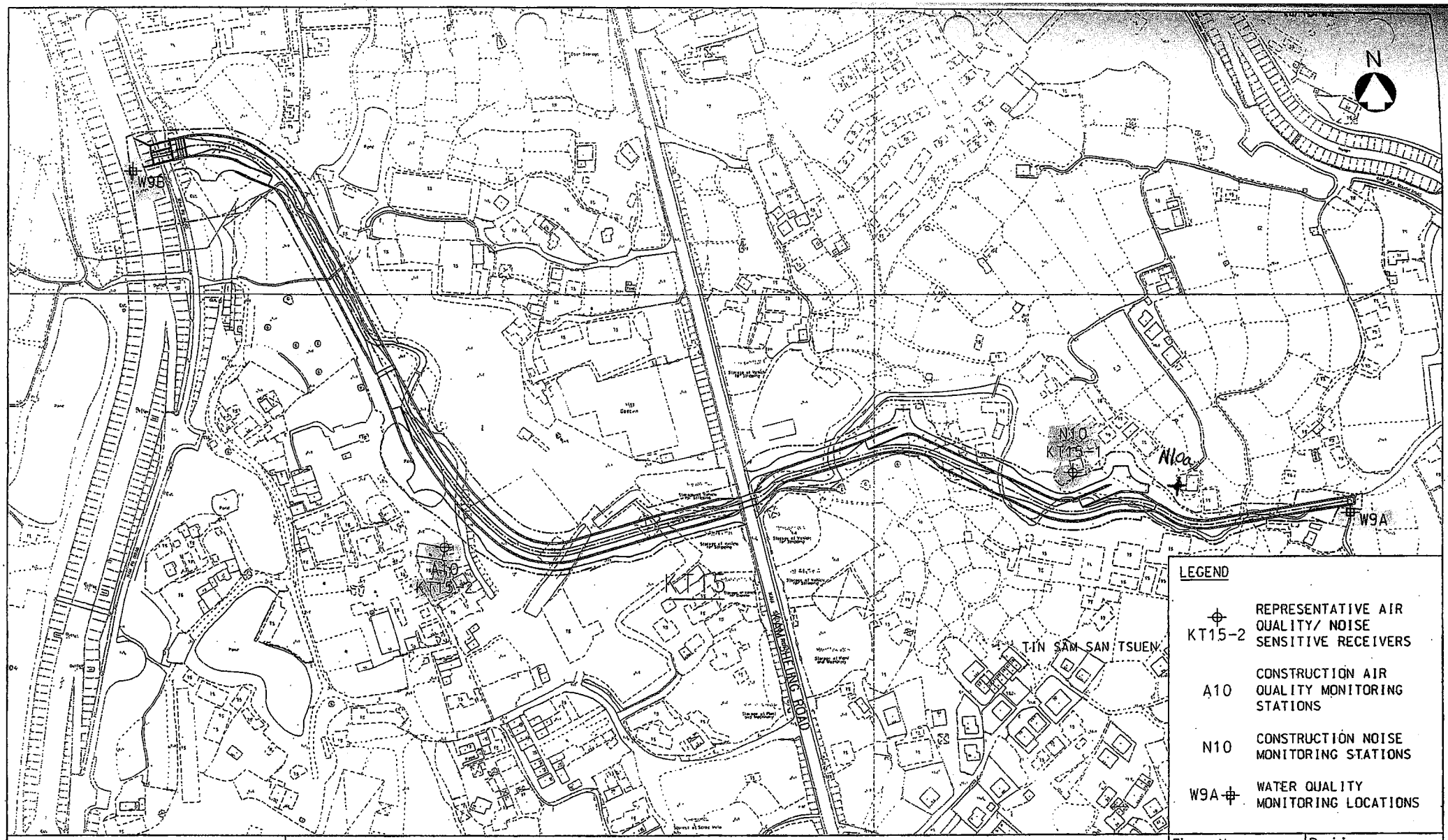
Contact Details of Key Personnel

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

APPENDIX D

LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA



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

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

Title :

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

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

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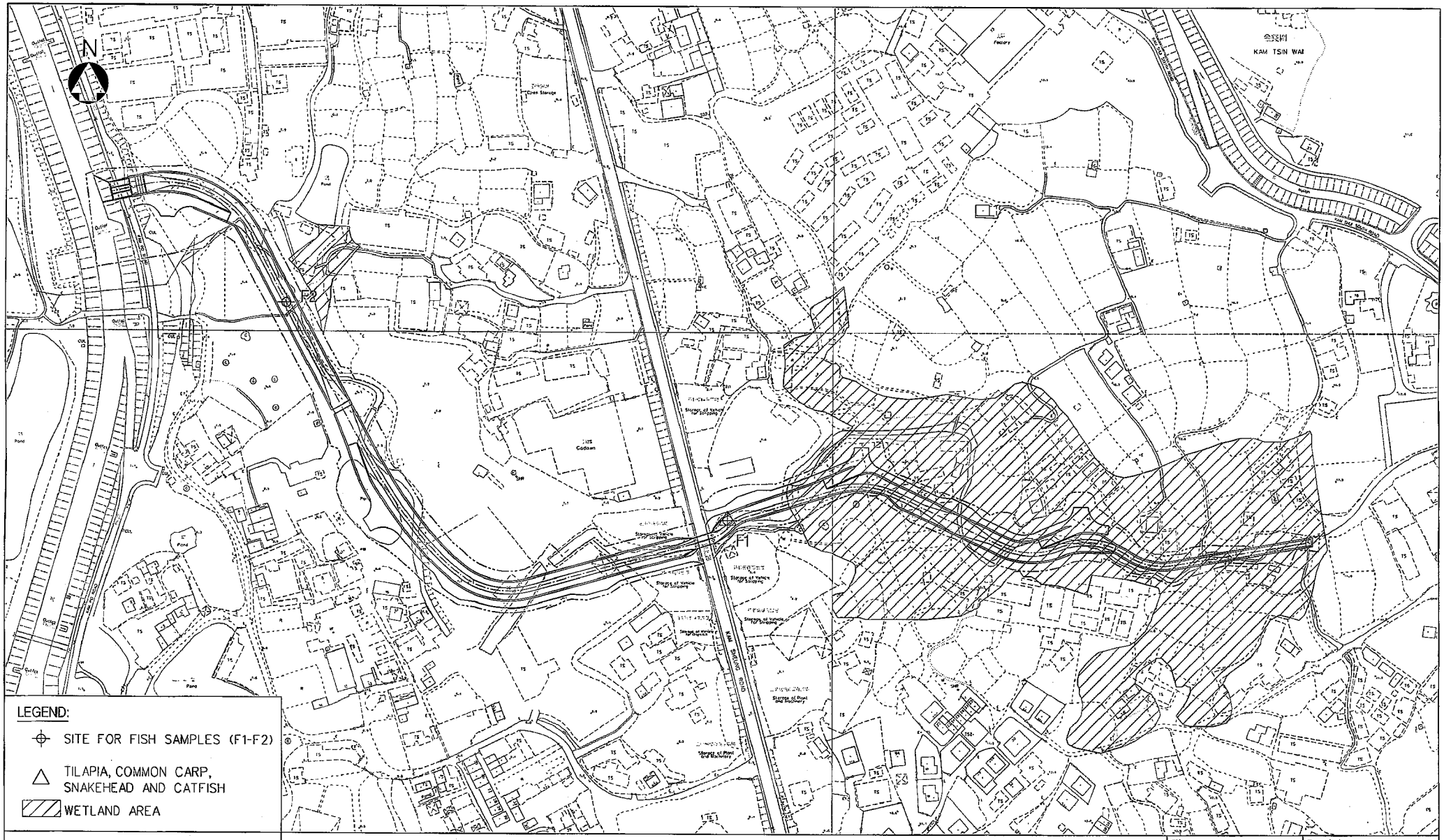

LEGEND:

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

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

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

Title :

ECOLOGICAL MONITORING AREA KT15

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

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APPENDIX E

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

Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	Engineer	Contractor
ACTION LEVEL				
1. Exeedance for one sample	1. Identify source 2. Inform IEC and Engineer 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by ET 2. Check Contractor's working method	Notify Contractor	1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exeedance for two or more consecutive samples	1. Identify source 2. Inform IEC and Engineer 3. Repeat measurements to confirm findings 4. Increase monitoring frequency to daily 5. Discuss with IEC and Contractor on remedial actions required 6. If exceedance continues, arrange meeting with IEC and Engineer 7. 7. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advice Engineer on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial actions to IEC within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
LIMIT LEVEL				
1. Exeedance for one sample	1. Identify source 2. Inform Engineer and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results	1. Check monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advice Engineer on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	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. Amend proposal if appropriate
2. 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	1. Discuss amongst Engineer, ET and Contractor on potential remedial actions 2. Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly 3. 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			
	ET Leader	**IEC**	**Engineer**	**Contractor**
ACTION LEVEL	1. Notify Contractor and Engineer 2. Carry out investigation 3. Report the results of investigation to the IEC and Contractor 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness	1. Review the analysed results submitted by ET 2. Review the proposed remedial measures by the Contractor and advice the Engineer accordingly 3. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures properly implemented	1. Submit noise mitigation proposals for remedial actions to IEC 2. Implement the agreed proposals
LIMIT LEVEL	1. Notify IEC, Engineer, EPD and Contractor 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IEC, Engineer and EPD the causes & actions taken for the exceedances 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	1. Discuss amongst Engineer, ET and Contractor on potential remedial actions 2. Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly 3. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures properly implemented 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	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 and Action Plan for Stream Water Quality

Event	ET Leader	IEC	Engineer	Contractor
ACTION LEVEL (being exceeded by one sampling day)	1. Repeat in-situ measurement to 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	1. Discuss with ET and 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	1. Discuss with IEC on the proposed mitigation measures 2. Make agreement on the mitigation measures to be implemented	1. Inform Engineer and 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)	1. Repeat in-situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC, Contractor and EPD 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures IEC, Engineer and Contractor 6. Repeat measurement on next day of exceedance 7. Ensure mitigation measures are implemented 8. Prepare to increase the monitoring frequency to daily 9. Repeat measurement on next day of exceedance	1. Discuss with ET and 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	1. Discuss with IEC on the proposed mitigation measures 2. Make agreement on the mitigation measures to be implemented 3. Assess the effectiveness of the implemented mitigation measures	1. Inform Engineer and 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 IEC and propose mitigation measures to IEC and Engineer within 3 working days 6. Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by one sampling days)	1. Repeat in-situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC, Contractor and EPD 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures IEC, Engineer and Contractor 6. Ensure mitigation measures are implemented 7. Increase the monitoring frequency to daily until no exceedance of Limit level	1. Discuss with ET and 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	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures 2. Request Contractor to critically review the working methods 3. Make agreement on the mitigation measures to be implemented 4. Assess the effectiveness of the implemented mitigation measures	1. Inform Engineer and 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, IEC and Engineer and propose mitigation measures to IEC and Engineer within 3 working days 6. Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by more than one sampling days)	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform Contractor, Engineer, IEC and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, Engineer and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level	1. Discuss with ET and 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	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures 2. Request Contractor to critically review the working methods 3. Make agreement on the mitigation measures to be implemented 4. Assess the effectiveness of the implemented mitigation measures 5. 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	1. Inform Engineer and 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, IEC and Engineer and propose mitigation measures to IEC and Engineer within 3 working days Propose mitigation measures to Engineer within 3 working days 6. Implement the agreed mitigation measures; 7. 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	Greasby Anderson GMWS2310 High Volume Sampler	8 Sep 09	8 Nov 09
2		Calibration Kit TISCH Model TE-5025A – Orifcs ID 1612 and Rootsmeter S/N 9833620	2 June 2009	2 June 2010
3*		TSI DuskTrak Model 8520 (21060)	18 Jun 09	18 Jun 10
4*		TSI DuskTrak Model 8520 (23080)	18 Jun 09	18 Jun 10
5	Noise	Cesva CB-5 Acoustical Calibrator (Serial No. 030934)	28 Apr 09	28 Apr 10
6		Cesva SC-20c Sound Level Meter (Serial No. T212509)	28 Apr 09	28 Apr 10
7	Water	YSI 550A (Serial No. 05F2063AZ)	17 July 09	17 Oct 09
8		Extech pH EC500 (Serial No.133298)	17 Jul 09	17 Oct 09
9		Turbidimeter HACH 2100p (Serial No. 95090008735)	3 Aug 09	3 Nov 09
10		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.*

AUES

Equipment Calibration Record

Equipment Calibrated:

Type:	Dust Trak Model 8520
Manufacturer:	TSI
Serial No.	23080
Equipment Ref:	EQ063

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	No.1 Ma On Kong Village
Equipment Ref:	ASR15 (A2)
Last Calibration Date:	15-Jun-09

Equipment Calibration Results:

Calibration Date: 18-Jun-09

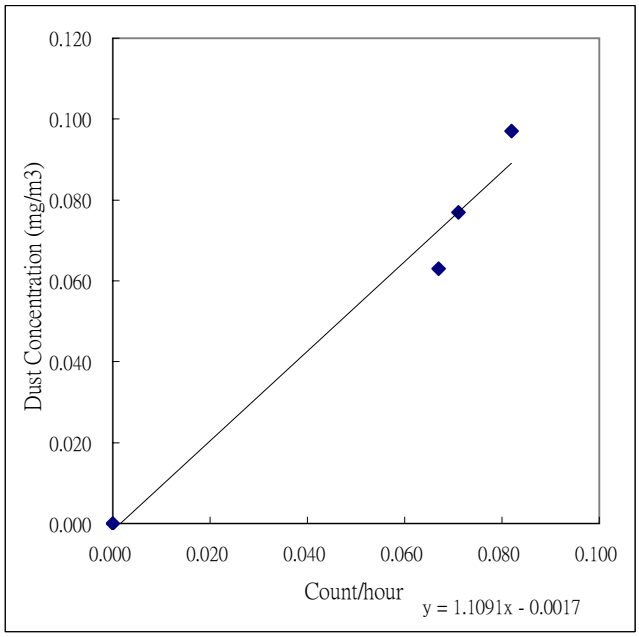
Hour	Time	Temp °C	RH %	Dust Concentration in mg/m^3	
				(Standard Equipment)	(Calibrated Equipment)
1	11:00 ~ 12:00	31.6	67.2	0.071	0.077
1	12:05 ~ 13:05	32.4	68.7	0.067	0.063
1	13:10 ~ 14:10	32.7	68.1	0.082	0.097

Sensitivity Adjustment Zero Calibration (Before Calibratio 0 (mg/m^3)

Sensitivity Adjustment Zero Calibration (After Calibration) 0 (mg/m^3)

Linear Regression of Y or X

Slope:	**0.0**
Correlation Coefficient	**0.9851**
Validity of Calibration Record	**18-Jun-10**



Operator : Carson Chan Signature : Carson Date : 2009/6/18

QC Reviewer Ben Tam Signature : Date : 2009/6/18

AUES

Equipment Calibration Record

Equipment Calibrated:

Type:	Dust Trak Model 8520
Manufacturer:	TSI
Serial No.	21060
Equipment Ref:	EQ021

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	No.1 Ma On Kong Village
Equipment Ref:	ASR15 (A2)
Last Calibration Date:	15-Jun-09

Equipment Calibration Results:

Calibration Date: 18-Jun-09

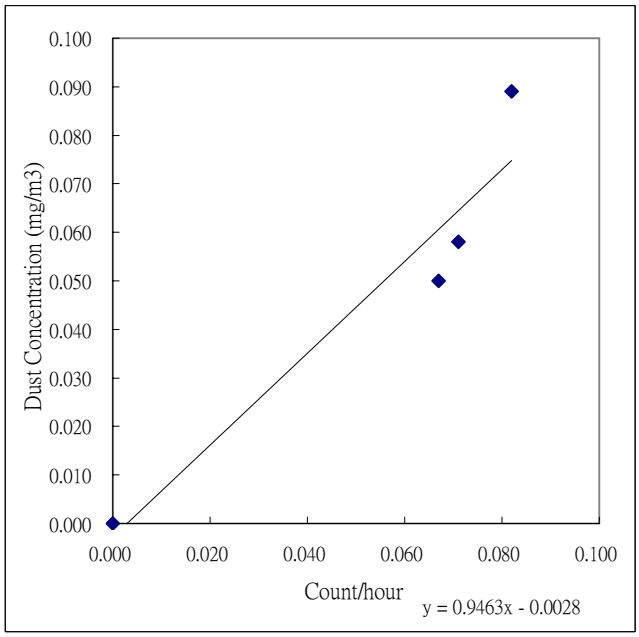
Hour	Time	Temp °C	RH %	Dust Concentration in mg/m^3	
				(Standard Equipment)	(Calibrated Equipment)
1	11:00 ~ 12:00	31.6	67.2	0.071	0.058
1	12:05 ~ 13:05	32.4	68.7	0.067	0.05
1	13:10 ~ 14:10	32.7	68.1	0.082	0.089

Sensitivity Adjustment Zero Calibration (Before Calibratio 0 (mg/m^3)

Sensitivity Adjustment Zero Calibration (After Calibration) 0 (mg/m^3)

Linear Regression of Y or X

Slope:	**0.0**
Correlation Coefficient	**0.9545**
Validity of Calibration Record	**18-Jun-10**



Operator : Carson Chan Signature : Carson Date : 2009/6/18

QC Reviewer Ben Tam Signature : Date : 2009/6/18

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tin Sam San Tsuen
Location ID : A10

Date of Calibration: 8-Sep-09
Next Calibration Date: 8-Nov-09
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1007.2	Corrected Pressure (mm Hg)	755.4
Temperature (^{o}C)	29.9	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	TE-5025A	Qstd Intercept ->	-0.02851
Serial # ->	9833620		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.6	4.6	9.2	1.502	51	50.02	Slope = 50.7971
13	3.7	3.7	7.4	1.349	44	43.16	Intercept = -25.6956
10	2.6	2.6	5.2	1.133	34	33.35	Corr. coeff. = 0.9974
7	2	2	4	0.995	24	23.54	
5	1.2	1.2	2.4	0.774	14	13.73	

Calculations :

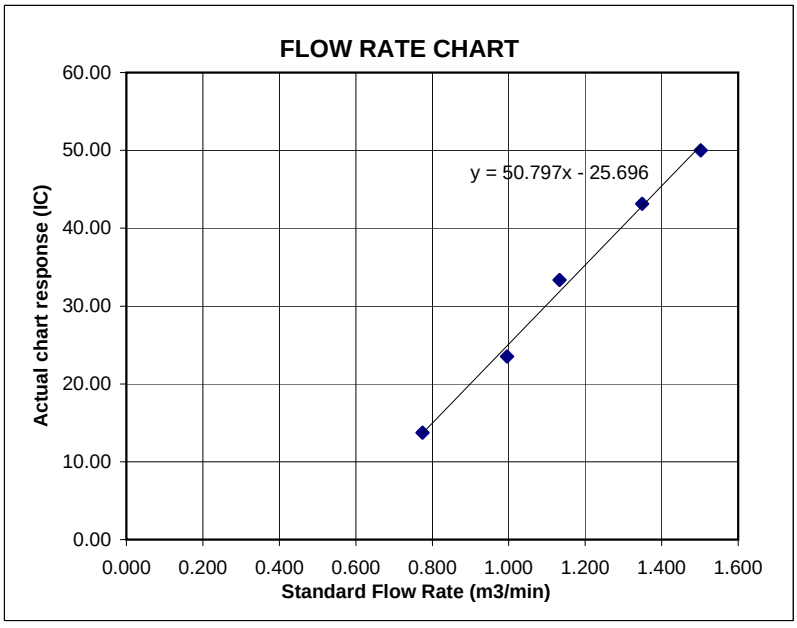
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

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



TISCH ENVIROMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
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877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jun 02, 2009 Rootsmeter S/N 9833620 Ta (K) - 296
Operator Tisch Orifice I.D. - 1612 Pa (mm) - 751.84

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3890	3.2	2.00
2	NA	NA	1.00	0.9820	6.4	4.00
3	NA	NA	1.00	0.8780	7.9	5.00
4	NA	NA	1.00	0.8390	8.7	5.50
5	NA	NA	1.00	0.6920	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9917	0.7139	1.4113		0.9957	0.7169	0.8874
0.9875	1.0056	1.9959		0.9915	1.0097	1.2549
0.9854	1.1223	2.2315		0.9894	1.1269	1.4030
0.9844	1.1733	2.3405		0.9884	1.1781	1.4715
0.9791	1.4149	2.8227		0.9831	1.4206	1.7747
Qstd slope (m) =		2.01546		Qa slope (m) =		1.26205
intercept (b) =		-0.02851		intercept (b) =		-0.01792
coefficient (r) =		0.99997		coefficient (r) =		0.99997
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

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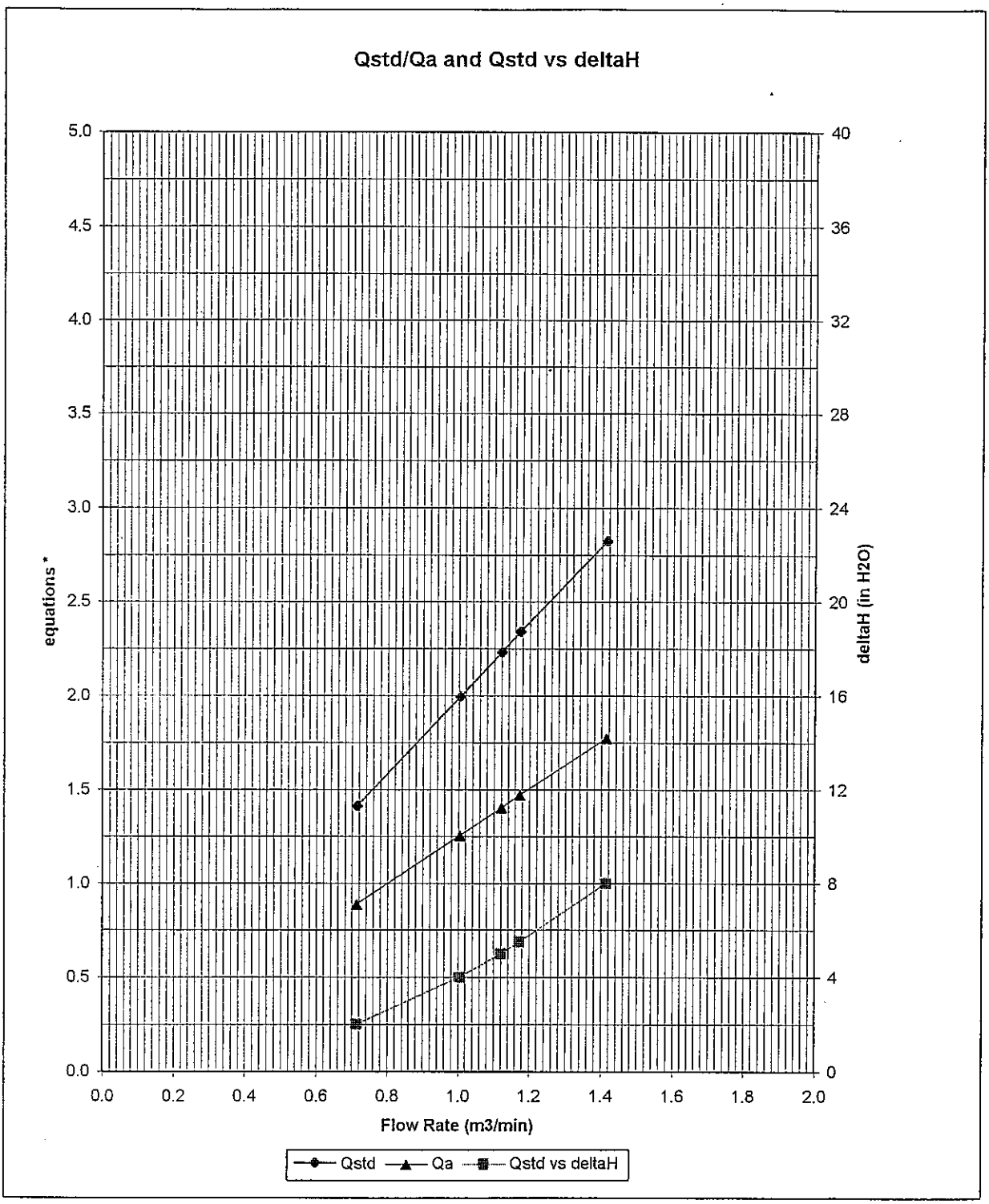
AIR POLLUTION MONITORING EQUIPMENT



* y-axis equations:

Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H\ (Ta\ /\ Pa))}$

#1612

APPENDIX G

IMPACT MONITORING SCHEDULES

Impact Monitoring Schedules in this Reporting Period

Date		Air Quality		Noise Leq 30min	Water Quality	Ecology Surveys
		1-hour TSP	24-hour TSP			
Wed	26-Aug-09					
Thu	27-Aug-09					
Fri	28-Aug-09					
Sat	29-Aug-09					
Sun	30-Aug-09					
Mon	31-Aug-09					
Tue	1-Sep-09					
Wed	2-Sep-09					
Thu	3-Sep-09					
Fri	4-Sep-09					
Sat	5-Sep-09					
Sun	6-Sep-09					
Mon	7-Sep-09					
Tue	8-Sep-09					
Wed	9-Sep-09					
Thu	10-Sep-09					
Fri	11-Sep-09					
Sat	12-Sep-09					
Sun	13-Sep-09					
Mon	14-Sep-09					
Tue	15-Sep-09					
Wed	16-Sep-09					
Thu	17-Sep-09					
Fri	18-Sep-09					
Sat	19-Sep-09					
Sun	20-Sep-09					
Mon	21-Sep-09					
Tue	22-Sep-09					
Wed	23-Sep-09					
Thu	24-Sep-09					
Fri	25-Sep-09					

	Monitoring Day
	Sunday or Public Holiday

Impact Monitoring Schedules in the Next Reporting Period

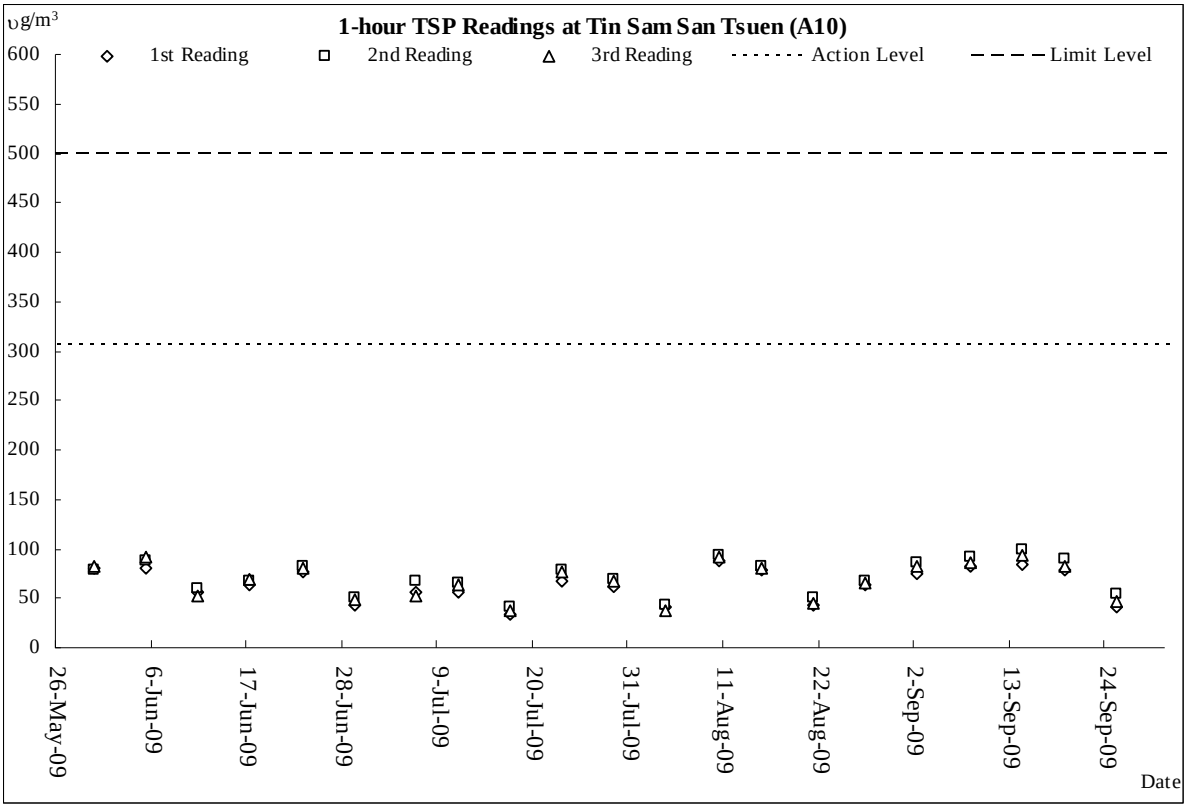
Date		Air Quality		Noise Leq 30min	Water Quality	Ecology Surveys
		1-hour TSP	24-hour TSP			
Sat	26-Sep-09					
Sun	27-Sep-09					
Mon	28-Sep-09				■	
Tue	29-Sep-09					
Wed	30-Sep-09		■		■	
Thu	1-Oct-09					
Fri	2-Oct-09	■		■		
Sat	3-Oct-09					
Sun	4-Oct-09					
Mon	5-Oct-09				■	
Tue	6-Oct-09					
Wed	7-Oct-09				■	
Thu	8-Oct-09		■			
Fri	9-Oct-09	■		■		
Sat	10-Oct-09					
Sun	11-Oct-09					
Mon	12-Oct-09				■	
Tue	13-Oct-09					
Wed	14-Oct-09		■		■	
Thu	15-Oct-09	■		■		
Fri	16-Oct-09					
Sat	17-Oct-09					
Sun	18-Oct-09					
Mon	19-Oct-09				■	
Tue	20-Oct-09		■			
Wed	21-Oct-09	■		■	■	
Thu	22-Oct-09					
Fri	23-Oct-09					
Sat	24-Oct-09					■
Sun	25-Oct-09					

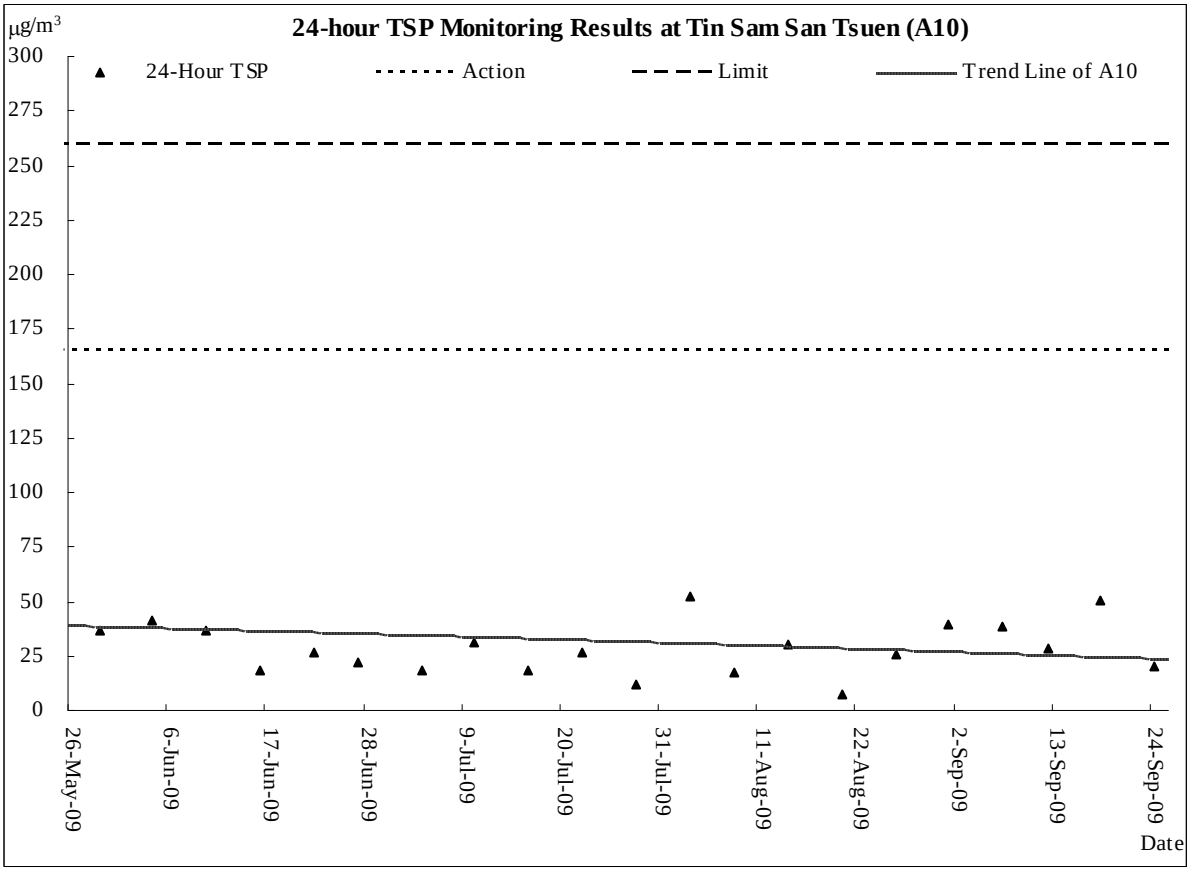
■	Monitoring Day
	Sunday or Public Holiday

APPENDIX H

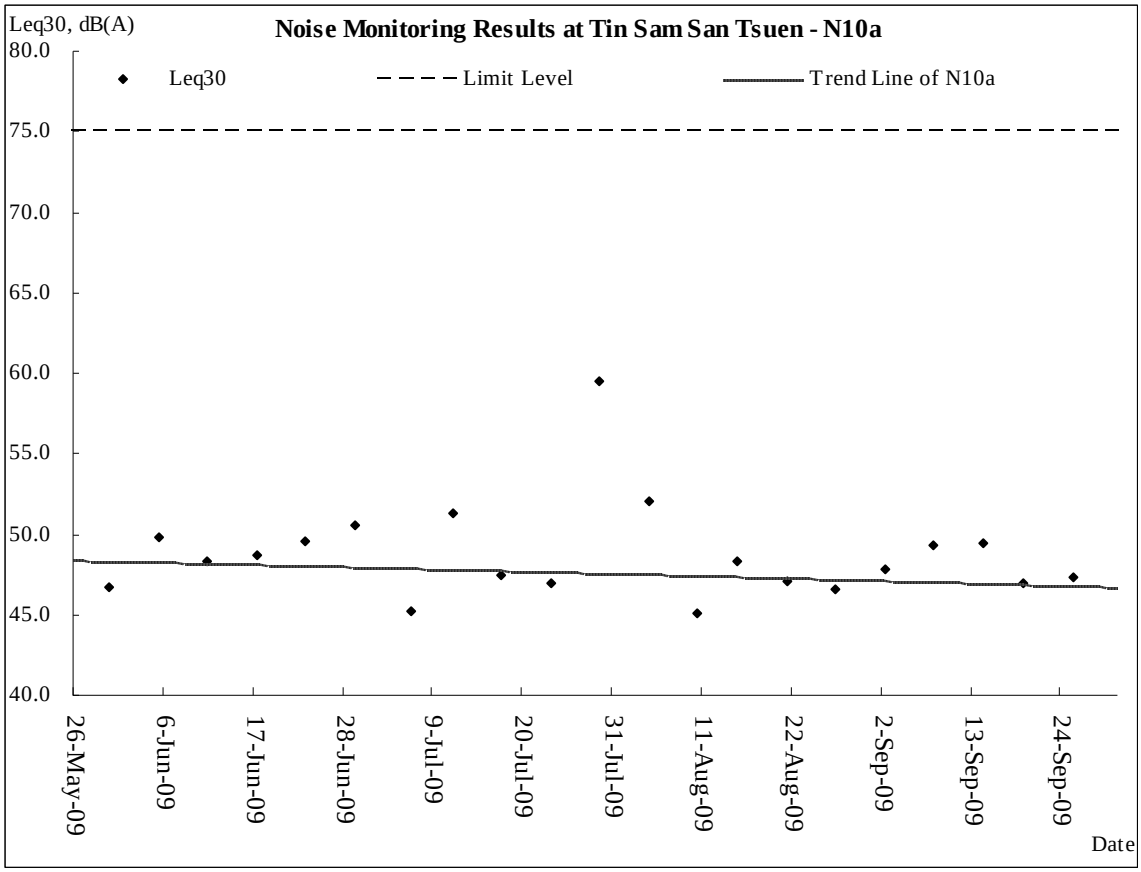
GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING RESULTS

AIR QUALITY

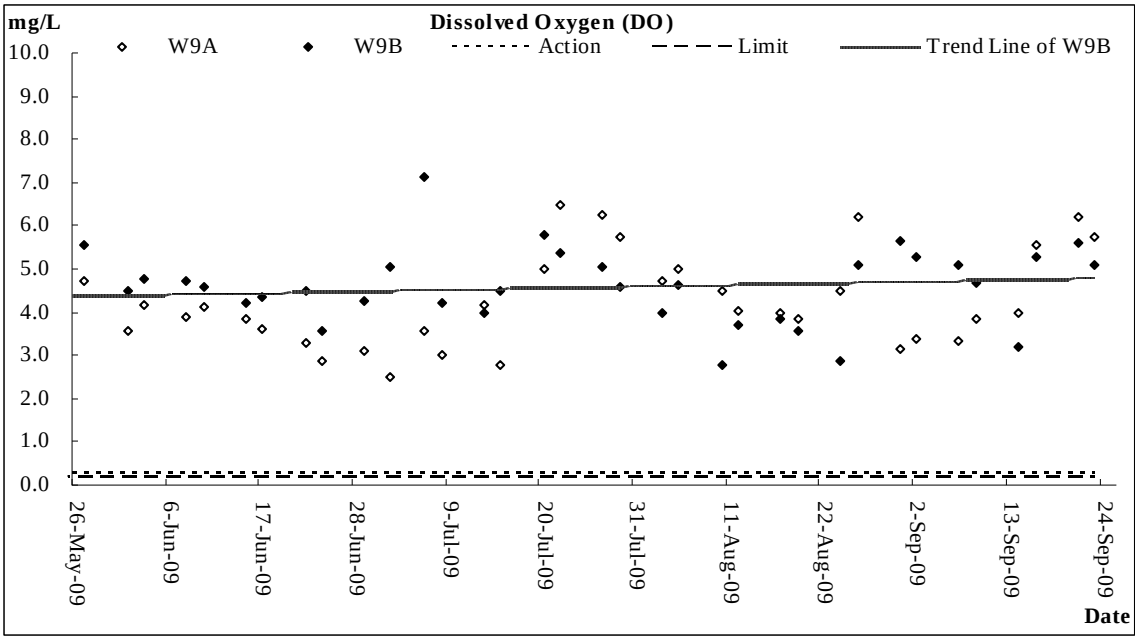

1-hour TSP Readings at Tin Sam San Tsuen (A10)
μg/m³
1st Reading
2nd Reading
3rd Reading
Action Level
Limit Level
600
550
500
450
400
350
300
250
200
150
100
50
0
26-May-09
6-Jun-09
17-Jun-09
28-Jun-09
9-Jul-09
20-Jul-09
31-Jul-09
11-Aug-09
22-Aug-09
2-Sep-09
13-Sep-09
24-Sep-09
Date

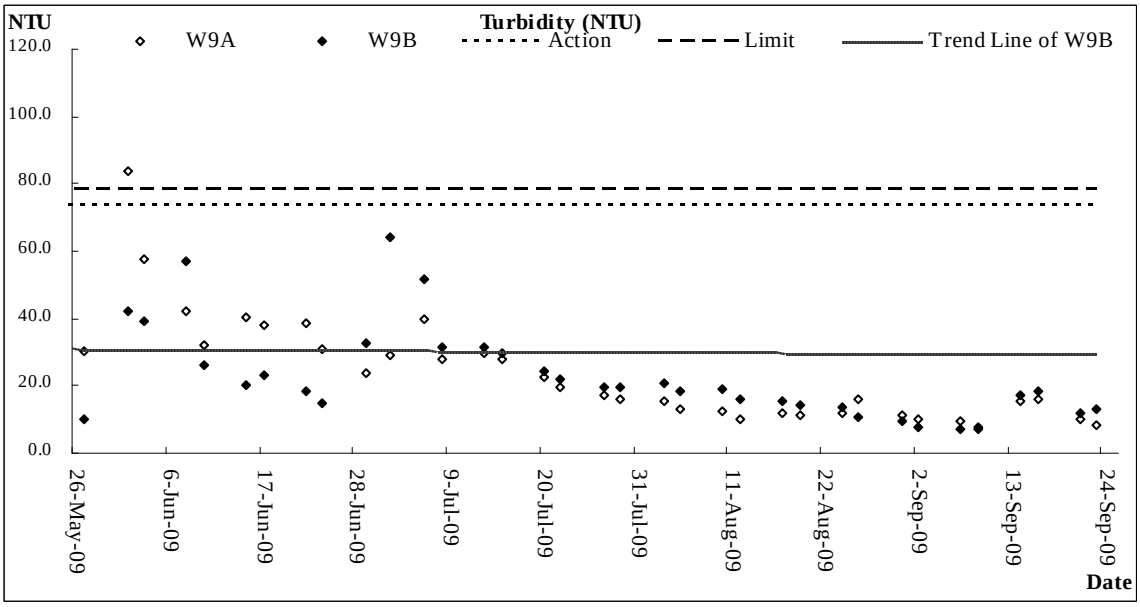

24-hour TSP Monitoring Results at Tin Sam San Tsuen (A10)
μg/m³
24-Hour TSP
Action
Limit
Trend Line of A10
300
275
250
225
200
175
150
125
100
75
50
25
0
26-May-09
6-Jun-09
17-Jun-09
28-Jun-09
9-Jul-09
20-Jul-09
31-Jul-09
11-Aug-09
22-Aug-09
2-Sep-09
13-Sep-09
24-Sep-09
Date

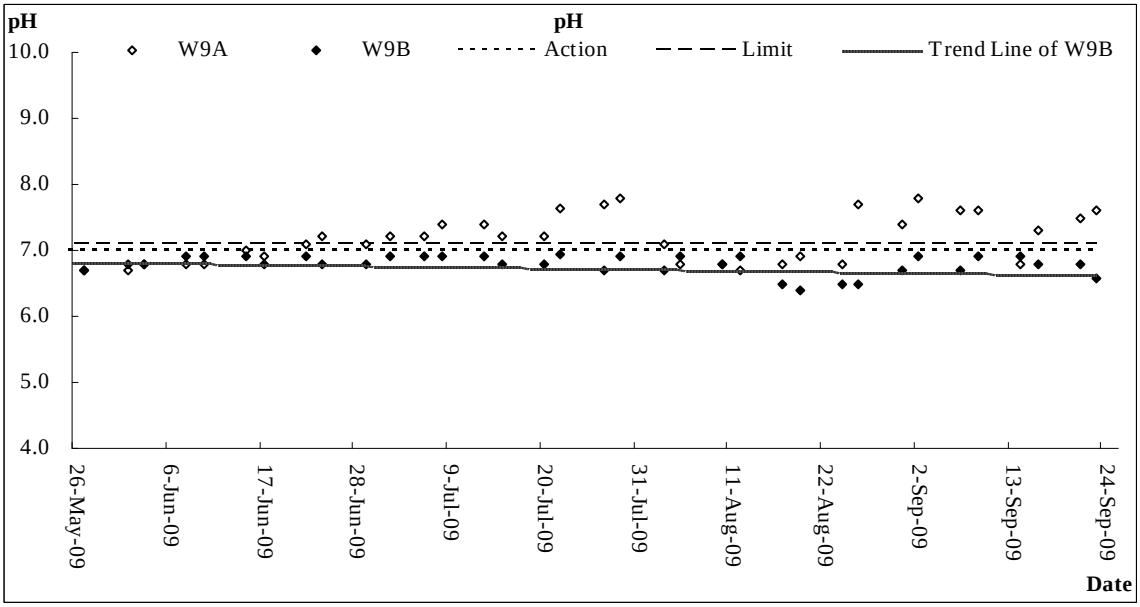
CONSTRUCTION NOISE

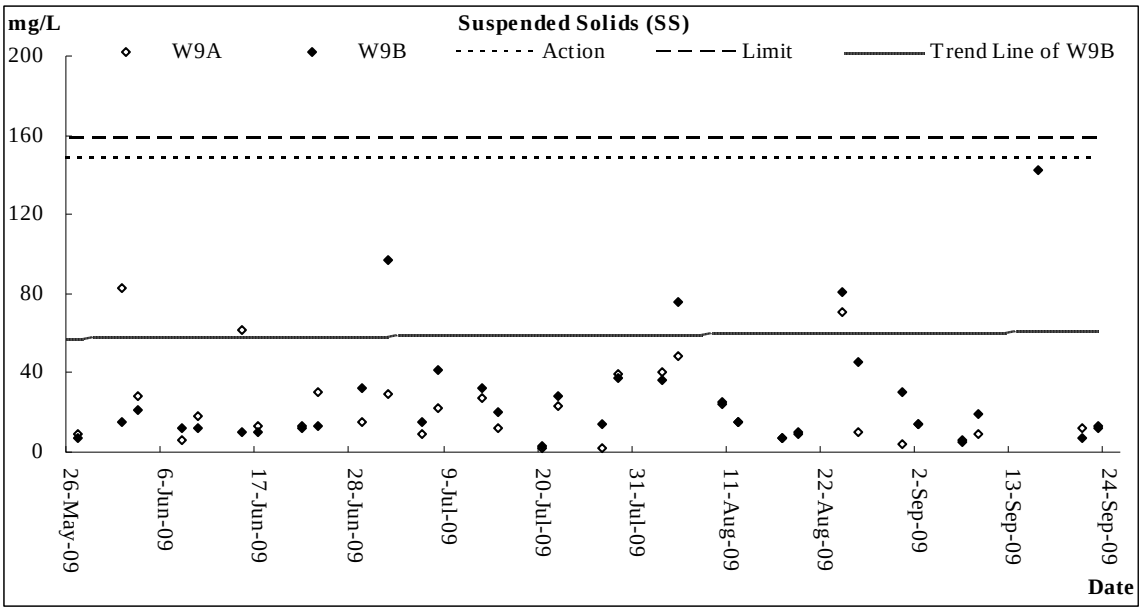


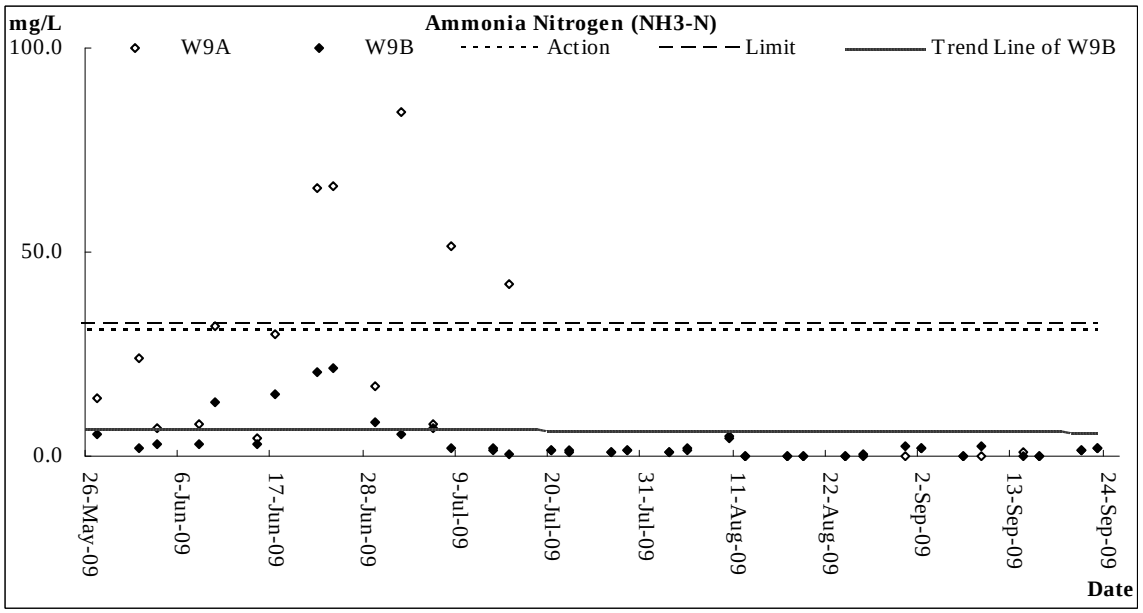
STREAM WATER QUALITY

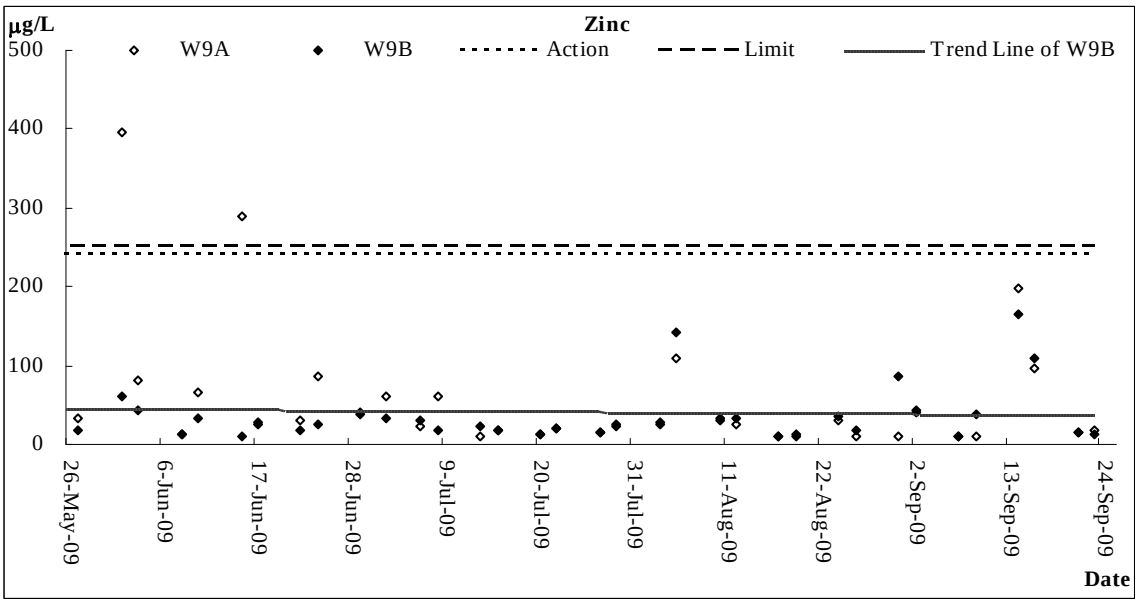







mg/L
Suspended Solids (SS)
W9A
W9B
Action
Limit
Trend Line of W9B
200
160
120
80
40
0
26-May-09
6-Jun-09
17-Jun-09
28-Jun-09
9-Jul-09
20-Jul-09
31-Jul-09
11-Aug-09
22-Aug-09
2-Sep-09
13-Sep-09
24-Sep-09
Date


mg/L
Ammonia Nitrogen (NH3-N)
W9A
W9B
Action
Limit
Trend Line of W9B
100.0
50.0
0.0
26-May-09
6-Jun-09
17-Jun-09
28-Jun-09
9-Jul-09
20-Jul-09
31-Jul-09
11-Aug-09
22-Aug-09
2-Sep-09
13-Sep-09
24-Sep-09
Date


µg/L
Zinc
W9A
W9B
Action
Limit
Trend Line of W9B
500
400
300
200
100
0
26-May-09
6-Jun-09
17-Jun-09
28-Jun-09
9-Jul-09
20-Jul-09
31-Jul-09
11-Aug-09
22-Aug-09
2-Sep-09
13-Sep-09
24-Sep-09
Date

Date	26-Aug-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	16:25	0.10	30.9	30.9	6.23	6.21	81.0	80.3	16.4	16.3	0	0.0	7.70	7.70	10.0	0.0	11.0
			30.9		6.18		79.6		16.2		0		7.70				
W9B	16:35	0.20	30.6	30.6	5.16	5.12	68.8	68.5	10.9	10.8	0	0.0	6.50	6.50	45.0	0.4	19.0
			30.6		5.07		68.2		10.7		0		6.50				

Date	31-Aug-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	13:15	0.10	31.6	31.6	3.17	3.14	42.4	42.0	11.6	11.5	0	0.0	7.40	7.40	4.0	0.1	10.0
			31.6		3.11		41.5		11.3		0		7.40				
W9B	13:25	0.10	31.2	31.2	5.66	5.63	70.2	69.6	9.7	9.7	0	0.0	6.70	6.70	30.0	2.4	87.0
			31.2		5.59		68.9		9.6		0		6.70				

Date	2-Sep-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	15:40	0.10	30.6	30.6	3.44	3.40	46.5	46.2	10.6	10.4	0	0.0	7.80	7.80	14.0	2.0	44.0
			30.6		3.36		45.8		10.1		0		7.80				
W9B	16:00	0.10	31.0	31.0	5.31	5.29	67.6	67.0	7.9	7.7	0	0.0	6.90	6.90	14.0	2.1	40.0
			31.0		5.26		66.4		7.6		0		6.90				

Date	7-Sep-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	15:35	0.10	30.7	30.7	3.37	3.34	44.6	44.2	9.9	9.8	0	0.0	7.60	7.60	6.0	0.0	10.0
			30.7		3.31		43.7		9.6		0		7.60				
W9B	15:45	0.20	30.4	30.4	5.13	5.09	65.3	65.1	7.2	7.2	0	0.0	6.70	6.70	5.0	0.0	10.0
			30.4		5.05		64.8		7.1		0		6.70				

Date		9-Sep-09																	
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	15:55	0.10	31.2	31.2	3.87	3.84	49.6	49.2	7.9	7.8	0	0.0	7.60	7.60	9.0	0.1	10.0
			31.2		3.8		48.7		7.7		0		7.60				
W9B	16:15	0.20	31.4	31.4	4.74	4.70	56.4	56.1	7.3	7.3	0	0.0	6.90	6.90	19.0	2.5	37.0
			31.4		4.65		55.7		7.2		0		6.90				

Date		14-Sep-09																	
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	15:40	0.30	26.9	26.9	3.98	3.96	49.9	49.6	15.6	15.4	0	0.0	6.80	6.80	505.0	0.9	197.0
			26.9		3.94		49.2		15.2		0		6.80				
W9B	15:50	0.10	26.5	26.5	3.21	3.19	41.4	41.0	17.6	17.3	0	0.0	6.90	6.90	215.0	0.1	165.0
			26.5		3.16		40.5		16.9		0		6.90				

Date		16-Sep-09																	
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	15:45	0.10	27.4	27.4	5.58	5.54	75.3	74.9	16.2	16.1	0	0.0	7.30	7.30	226.0	0.1	97.0
			27.4		5.49		74.5		15.9		0		7.30				
W9B	15:55	0.10	27.6	27.6	5.33	5.30	71.8	71.0	18.6	18.3	0	0.0	6.80	6.80	142.0	0.1	109.0
			27.6		5.26		70.2		17.9		0		6.80				

Date		21-Sep-09																	
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	15:55	0.10	29.7	29.7	6.23	6.20	82.3	82.0	10.2	10.0	0	0.0	7.50	7.50	12.0	1.6	15.0
			29.7		6.17		81.6		9.8		0		7.50				
W9B	15:45	0.10	29.5	29.5	5.62	5.58	76.3	75.9	12.3	12.1	0	0.0	6.80	6.80	7.0	1.5	14.0
			29.5		5.54		75.4		11.9		0		6.80				

Date		23-Sep-09																
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	15:35	0.10	30.6	30.6	5.77	5.75	77.9	77.6	8.6	8.5	0	0.0	7.60	7.60	13.0	2.0	17.0
			30.6		5.73		77.3		8.4		0		7.60				
W9B	15:50	0.20	30.8	30.8	5.16	5.12	68.6	68.1	13.2	12.8	0	0.0	6.59	6.59	12.0	1.8	13.0
			30.8		5.07		67.5		12.4		0		6.59				

APPENDIX I

METEOROLOGICAL DATA IN THE REPORTING PERIOD

Meteorological Data Extracted from Hong Kong Observatory in the Reporting Period

Date		Weather		Lau Fau Shan Weather Station			
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
Wed	26-Aug-09	fine/very hot/isolated showers/thunderstorm/light winds	10	28.4	8.2	83	080
Thu	27-Aug-09	fine/very hot/isolated	0	29.2	9.2	80	100
Fri	28-Aug-09	fine/very hot/isolated showers/light winds	0	30.2	9.6	74	250
Sat	29-Aug-09	fine/very hot/isolated showers/light	5	28.7	9.5	81	100
Sun	30-Aug-09	fine/hazy/hot/moderate	0	29.2	9.6	79	080
Mon	31-Aug-09	fine/hazy/very hot/moderate	0.5	28.3	9.1	77	070
Tue	1-Sep-09	fine/very hot/a few	0	29.0	11.2	75	080
Wed	2-Sep-09	fine/very hot/isolated	0	29.6	11.6	71	080
Thu	3-Sep-09	fine/very hot/hazy/moderate	0	33.0	11.4	72	090
Fri	4-Sep-09	fine/very hot/isolated	0.5	29.3	11.0	78	140
Sat	5-Sep-09	fine/very hot/isolated	0	30.0	13.1	68	090
Sun	6-Sep-09	fine/very hot isolated	0	29.9	10.0	70	080
Mon	7-Sep-09	fine/very hot/moderate	0	29.9	10.9	69	080
Tue	8-Sep-09	fine/very hot/moderate	0	29.8	10.5	69	080
Wed	9-Sep-09	sunny periods/hot/isolated	0	29.9	10.9	69	080
Thu	10-Sep-09	cloudy/squally showers/fresh/strong	0	28.9	21.3	67	080
Fri	11-Sep-09	cloudy/rain/squally	4.0	27.9	17.7	78	090
Sat	12-Sep-09	a few showers/sunny	0.5	29.5	16.5	72	090
Sun	13-Sep-09	fresh/cloudy/rain/moderate	0	29.4	9.8	78	250
Mon	14-Sep-09	fresh/strong/gales/cloudy/squally	27.5	27.1	25.2	87	040
Tue	15-Sep-09	fresh/strong/gales	68.5	26.1	26.9	91	140
Wed	16-Sep-09	scattered showers/squally	7.5	27.6	12.0	88	140
Thu	17-Sep-09	fine/hot/isolated showers/moderate	0	28.3	10.4	85	150
Fri	18-Sep-09	fine/very hot/moderate	0	29.2	9.4	80	250
Sat	19-Sep-09	fine/very hot/moderate	0	30.1	9.9	81	250
Sun	20-Sep-09	fine/very hot/moderate	0	29.7	12.0	80	150
Mon	21-Sep-09	cloudy/sunny intervals/haze/light	4.5	29.4	11.9	80	140
Tue	22-Sep-09	fine/dry/moderate	0	28.2	15.1	69	020
Wed	23-Sep-09	sunny periods/cloudy/rain/moderate	0	28.0	12.6	71	080
Thu	24-Sep-09	sunny periods/cloudy/fresh/strong	0	29.3	17.7	69	090
Fri	25-Sep-09	fine/hot/moderate/fresh	0	29.6	13.6	67	080

APPENDIX J

ENVIRONMENTAL TEAM SITE INSPECTION CHECKLISTS

Environmental Site Inspection Checklist for KT15

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**	**Inspected by**	
		RE/RE's representative:	K. P. Cheung
Inspection		**IEC/IEC's representative:**	-
Date:	2 September 2009	**ETL/ ET's representative:**	Nicola Hon
Time:	09:30	**Contractor's representative:**	Ray Cheung
		Checklist No.	KT15-020909

PART A: GENERAL INFORMATION **Environmental Permit No. NA**

Weather:	☐ Sunny	☑ Fine	☐ Cloudy	☐ Rainy
Temperature:	30.1 ^{0}C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☐ Strong	☑ Breeze	☐ Light	☐ Calm

PART B: SITE AUDIT

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 1: Water Quality							
1.01	Is an effluent discharge license obtained for the Project?	☐	☑	☐	☐	☐	
1.02	Is the effluent discharged in accordance with the discharge licence?	☐	☑	☐	☐	☐	
1.03	Is the discharge of turbid water avoided?	☐	☑	☐	☐	☐	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	☐	☑	☐	☐	☐	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	☐	☑	☐	☐	☐	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	☐	☑	☐	☐	☐	
1.07	Is drainage system well maintained?	☐	☑	☐	☐	☐	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	☐	☑	☐	☐	☐	
1.09	Are temporary exposed slopes properly covered?	☐	☑	☐	☐	☐	
1.10	Are earthworks final surfaces well compacted or protected?	☐	☐	☐	☐	☑	
1.11	Are manholes adequately covered or temporarily sealed?	☐	☑	☐	☐	☐	
1.12	Are there any procedures and equipment for rainstorm protection?	☐	☑	☐	☐	☐	
1.13	Are wheel washing facilities well maintained?	☐	☑	☐	☐	☐	
1.14	Is runoff from wheel washing facilities avoided?	☐	☑	☐	☐	☐	
1.15	Are there toilets provided on site?	☐	☑	☐	☐	☐	
1.16	Are toilets properly maintained?	☐	☑	☐	☐	☐	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	☐	☐	☐	☐	☑	
1.18	Is the oil leakage or spillage avoided?	☐	☑	☐	☐	☐	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	☐	☑	☐	☐	☐	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	☐	☐	☐	☐	☑	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	☐	☐	☐	☐	☑	
1.22	Are the oil interceptors/grease traps maintained properly?	☐	☐	☐	☐	☑	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	☐	☐	☐	☐	☑	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?	☐	☐	☐	☐	☑	
1.26	Sediments at the dewatering of the streams should be dry before excavation.	☐	☐	☐	☐	☑	
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.	☐	☐	☐	☐	☑	
1.28	License collector should be employed for handling the sewage of mobile toilet.	☐	☑	☐	☐	☐	
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.	☐	☑	☐	☐	☐	
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☐	☐	☐	☑	
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 20km/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	Excavated odourous materials shall be transported away from site immediately if possible?	☐	☐	☐	☐	☑	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?	☐	☑	☐	☐	☐	
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?	☐	☐	☐	☐	☑	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?	☐	☐	☐	☐	☑	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☐	☑	☐	☐	☐	
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	

		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)?	☐	☐	☐	☐	☑	
3.06	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?	☐	☐	☐	☐	☑	
3.08	Are flaps and panels of mechanical equipment closed during operation?	☐	☐	☐	☐	☑	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	☐	☐	☐	☐	☑	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	☐	☐	☐	☐	☑	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
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)	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
Section 4: Waste/Chemical Management							
4.01	Waste Management Plan had been submit 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 properly and regularly?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	☐	☑	☐	☐	☐	
4.10	Are incompatible chemical wastes stored in different areas?	☐	☑	☐	☐	☐	
4.11	Are the chemical wastes disposed of by licensed collectors?	☐	☑	☐	☐	☐	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	☐	☑	☐	☐	☐	
4.13	Are chemical/fuel storage areas bunded?	☐	☑	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?	☐	☑	☐	☐	☐	
4.15	Are construction wastes sorted (inert and non-inert) on site?	☐	☑	☐	☐	☐	
4.16	Are construction wastes reused?	☐	☑	☐	☐	☐	
4.17	Are construction wastes disposed of properly?	☐	☐	☐	☑	☐	Remark 1
4.18	Are site hoardings and signboards made of durable materials instead of timber?	☐	☑	☐	☐	☐	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	☐	☑	☐	☐	☐	
4.20	Are appropriate procedures followed if contaminated material exists?	☐	☐	☐	☐	☑	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	☐	☑	☐	☐	☐	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	☐	☑	☐	☐	☐	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☐	☐	☐	☐	☑	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 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?	☐	☑	☐	☐	☐	
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).	☐	☑	☐	☐	☐	
6.03	Works in the marsh and other disturbances to this area is avoided?	☐	☑	☐	☐	☐	
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?	☐	☑	☐	☐	☐	
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?	☐	☑	☐	☐	☐	
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.	☐	☑	☐	☐	☐	
Section7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☐	☐	☐	☑	

Remarks

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

The exposed slope at Bay 1 has been filled

Finding of Site Inspection on 2 September 2009:

Remark 1: The construction waste was observed at Ch. 1300, the Contractor should improve the housekeeping of the construction site.

RE's representative	IEC's representative	ET's representative	Contractor's representative
(Ep CHEUNG.)	( )	(Nicola Hon)	(T_C Chang)

Environmental Site Inspection Checklist for KT15

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**	**Inspected by**	
		RE/RE's representative:	K. P. Cheung
Inspection		**IEC/IEC's representative:**	-
Date:	9 September 2009	**ETL/ ET's representative:**	Nicola Hon
Time:	10:00	**Contractor's representative:**	Ray Cheung
		Checklist No.	KT15-090909

PART A: GENERAL INFORMATION **Environmental Permit No. NA**

Weather:	☐ Sunny	☐ Fine	☐ Cloudy	☑ Rainy
Temperature:	30.6 ^{0}C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☑ Strong	☐ Breeze	☐ Light	☐ Calm

PART B: SITE AUDIT

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 1: Water Quality							
1.01	Is an effluent discharge license obtained for the Project?	☐	☑	☐	☐	☐	
1.02	Is the effluent discharged in accordance with the discharge licence?	☐	☑	☐	☐	☐	
1.03	Is the discharge of turbid water avoided?	☐	☑	☐	☐	☐	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	☐	☑	☐	☐	☐	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	☐	☑	☐	☐	☐	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	☐	☑	☐	☐	☐	
1.07	Is drainage system well maintained?	☐	☑	☐	☐	☐	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	☐	☑	☐	☐	☐	
1.09	Are temporary exposed slopes properly covered?	☐	☑	☐	☐	☐	
1.10	Are earthworks final surfaces well compacted or protected?	☐	☐	☐	☐	☑	
1.11	Are manholes adequately covered or temporarily sealed?	☐	☑	☐	☐	☐	
1.12	Are there any procedures and equipment for rainstorm protection?	☐	☑	☐	☐	☐	
1.13	Are wheel washing facilities well maintained?	☐	☑	☐	☐	☐	
1.14	Is runoff from wheel washing facilities avoided?	☐	☑	☐	☐	☐	
1.15	Are there toilets provided on site?	☐	☑	☐	☐	☐	
1.16	Are toilets properly maintained?	☐	☑	☐	☐	☐	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	☐	☐	☐	☐	☑	
1.18	Is the oil leakage or spillage avoided?	☐	☑	☐	☐	☐	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	☐	☑	☐	☐	☐	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	☐	☐	☐	☐	☑	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	☐	☐	☐	☐	☑	
1.22	Are the oil interceptors/grease traps maintained properly?	☐	☐	☐	☐	☑	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	☐	☐	☐	☐	☑	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?	☐	☐	☐	☐	☑	
1.26	Sediments at the dewatering of the streams should be dry before excavation.	☐	☐	☐	☐	☑	
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.	☐	☐	☐	☐	☑	
1.28	License collector should be employed for handling the sewage of mobile toilet.	☐	☑	☐	☐	☐	
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.	☐	☑	☐	☐	☐	
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☐	☐	☐	☑	
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 20km/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	Excavated odourous materials shall be transported away from site immediately if possible?	☐	☐	☐	☐	☑	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?	☐	☑	☐	☐	☐	
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?	☐	☐	☐	☐	☑	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?	☐	☐	☐	☐	☑	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☐	☑	☐	☐	☐	
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	

		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)?	☐	☐	☐	☐	☑	
3.06	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?	☐	☐	☐	☐	☑	
3.08	Are flaps and panels of mechanical equipment closed during operation?	☐	☐	☐	☐	☑	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	☐	☐	☐	☐	☑	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	☐	☐	☐	☐	☑	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
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)	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
Section 4: Waste/Chemical Management							
4.01	Waste Management Plan had been submit 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 properly and regularly?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	☐	☑	☐	☐	☐	
4.10	Are incompatible chemical wastes stored in different areas?	☐	☑	☐	☐	☐	
4.11	Are the chemical wastes disposed of by licensed collectors?	☐	☑	☐	☐	☐	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	☐	☑	☐	☐	☐	
4.13	Are chemical/fuel storage areas bunded?	☐	☑	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?	☐	☑	☐	☐	☐	
4.15	Are construction wastes sorted (inert and non-inert) on site?	☐	☑	☐	☐	☐	
4.16	Are construction wastes reused?	☐	☑	☐	☐	☐	
4.17	Are construction wastes disposed of properly?	☐	☑	☐	☐	☐	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	☐	☑	☐	☐	☐	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	☐	☑	☐	☐	☐	
4.20	Are appropriate procedures followed if contaminated material exists?	☐	☐	☐	☐	☑	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	☐	☑	☐	☐	☐	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	☐	☑	☐	☐	☐	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☐	☐	☐	☐	☑	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 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?	☐	☑	☐	☐	☐	
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).	☐	☑	☐	☐	☐	
6.03	Works in the marsh and other disturbances to this area is avoided?	☐	☑	☐	☐	☐	
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?	☐	☑	☐	☐	☐	
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?	☐	☑	☐	☐	☐	
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.	☐	☑	☐	☐	☐	
Section7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☐	☐	☐	☑	

Remarks

Follow-Up of Last Site Inspection (2 September 2009):

The construction waste observed at Ch. 1300 was found to be cleared

Finding of Site Inspection on 9 September 2009:

No adverse environmental impact was observed during site inspection.

RE's representative	*IEC's representative*	*ET's representative*	*Contractor's representative*
(KP CHEUNG)	( )	(Nicola Hon)	(T.T. Cheung)

Environmental Site Inspection Checklist for KT15

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**	**Inspected by**	
		RE/RE's representative:	K. P. Cheung
Inspection		**IEC/IEC's representative:**	Cyrus Lau
Date:	16 September 2009	**ETL/ ET's representative:**	Ben Tam
Time:	10:00	**Contractor's representative:**	Ray Cheung
		Checklist No.	KT15-160909

PART A: GENERAL INFORMATION **Environmental Permit No. NA**

Weather:	☐ Sunny	☑ Fine	☐ Cloudy	☐ Rainy
Temperature:	30 ^{0}C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☐ Strong	☐ Breeze	☑ Light	☐ Calm

PART B: SITE AUDIT

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 1: Water Quality							
1.01	Is an effluent discharge license obtained for the Project?	☐	☑	☐	☐	☐	
1.02	Is the effluent discharged in accordance with the discharge licence?	☐	☑	☐	☐	☐	
1.03	Is the discharge of turbid water avoided?	☐	☑	☐	☐	☐	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	☐	☑	☐	☐	☐	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	☐	☑	☐	☐	☐	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	☐	☑	☐	☐	☐	
1.07	Is drainage system well maintained?	☐	☑	☐	☐	☐	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	☐	☑	☐	☐	☐	
1.09	Are temporary exposed slopes properly covered?	☐	☑	☐	☐	☐	
1.10	Are earthworks final surfaces well compacted or protected?	☐	☐	☐	☐	☑	
1.11	Are manholes adequately covered or temporarily sealed?	☐	☑	☐	☐	☐	
1.12	Are there any procedures and equipment for rainstorm protection?	☐	☑	☐	☐	☐	
1.13	Are wheel washing facilities well maintained?	☐	☑	☐	☐	☐	
1.14	Is runoff from wheel washing facilities avoided?	☐	☑	☐	☐	☐	
1.15	Are there toilets provided on site?	☐	☑	☐	☐	☐	
1.16	Are toilets properly maintained?	☐	☑	☐	☐	☐	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	☐	☐	☐	☐	☑	
1.18	Is the oil leakage or spillage avoided?	☐	☑	☐	☐	☐	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	☐	☑	☐	☐	☐	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	☐	☐	☐	☐	☑	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	☐	☐	☐	☐	☑	
1.22	Are the oil interceptors/grease traps maintained properly?	☐	☐	☐	☐	☑	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	☐	☐	☐	☐	☑	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?	☐	☐	☐	☐	☑	
1.26	Sediments at the dewatering of the streams should be dry before excavation.	☐	☐	☐	☐	☑	
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.	☐	☐	☐	☐	☑	
1.28	License collector should be employed for handling the sewage of mobile toilet.	☐	☑	☐	☐	☐	
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.	☐	☐	☐	☑	☐	Remark 2
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☐	☐	☐	☑	
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 20km/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	Excavated odourous materials shall be transported away from site immediately if possible?	☐	☐	☐	☐	☑	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?	☐	☑	☐	☐	☐	
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?	☐	☐	☐	☐	☑	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?	☐	☐	☐	☐	☑	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☐	☑	☐	☐	☐	
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	

		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)?	☐	☐	☐	☐	☑	
3.06	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?	☐	☐	☐	☐	☑	
3.08	Are flaps and panels of mechanical equipment closed during operation?	☐	☐	☐	☐	☑	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	☐	☐	☐	☐	☑	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	☐	☐	☐	☐	☑	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
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)	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
Section 4: Waste/Chemical Management							
4.01	Waste Management Plan had been submit 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 properly and regularly?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	☐	☑	☐	☐	☐	
4.10	Are incompatible chemical wastes stored in different areas?	☐	☑	☐	☐	☐	
4.11	Are the chemical wastes disposed of by licensed collectors?	☐	☑	☐	☐	☐	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	☐	☑	☐	☐	☐	
4.13	Are chemical/fuel storage areas bunded?	☐	☑	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?	☐	☑	☐	☐	☐	
4.15	Are construction wastes sorted (inert and non-inert) on site?	☐	☑	☐	☐	☐	
4.16	Are construction wastes reused?	☐	☑	☐	☐	☐	
4.17	Are construction wastes disposed of properly?	☐	☐	☐	☑	☐	Remark 1
4.18	Are site hoardings and signboards made of durable materials instead of timber?	☐	☑	☐	☐	☐	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	☐	☑	☐	☐	☐	
4.20	Are appropriate procedures followed if contaminated material exists?	☐	☐	☐	☐	☑	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	☐	☑	☐	☐	☐	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	☐	☑	☐	☐	☐	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☐	☐	☐	☐	☑	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 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?	☐	☑	☐	☐	☐	
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).	☐	☑	☐	☐	☐	
6.03	Works in the marsh and other disturbances to this area is avoided?	☐	☑	☐	☐	☐	
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?	☐	☑	☐	☐	☐	
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?	☐	☑	☐	☐	☐	
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.	☐	☑	☐	☐	☐	
Section7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☐	☐	☐	☑	

Remarks

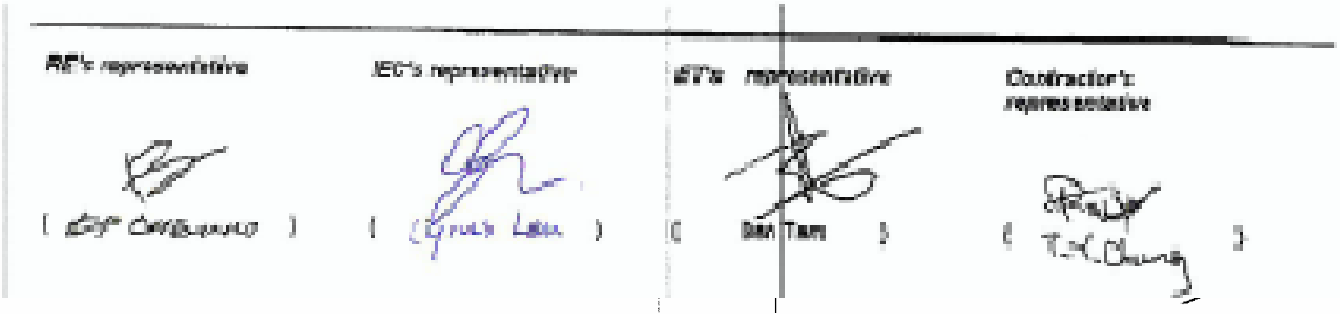
Follow-Up of Last Site Inspection (9 September 2009):

No adverse environmental impact was observed during site inspection.

Finding of Site Inspection on 16 September 2009:

1. C&D waste was scattered on site, housingkeeping should be improved to maintain the site clean and tidy.

2. Stagnant water cumulated inside the unused sedimentation tank was observed at Bay 40, the Contractor was reminded to clean up to prevent mosquito breeding.



Environmental Site Inspection Checklist for KT15

AECOM

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

Inspection Date: 16-9-2009.
Time: 10 am

Inspected by
RE's representative: Joe Chan, K.P. Cheung
IEC's representative: Cyrus Lam
ET's representative: Ben Tam
Contractor's representative: Ray Cheung
Checklist No. /

PART A: GENERAL INFORMATION Environmental Permit No. EP-231/2005/A

Weather: ☑ Sunny ☐ Fine ☑ Cloudy ☐ Rainy
Temperature: 30 °C
Humidity: ☑ High ☐ Moderate ☐ Low
Wind: ☐ Strong ☐ Breeze ☑ Light ☐ Calm

PART B: SITE AUDIT

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 1: Water Quality							
1.01	Is an effluent discharge license obtained for the Project?	☐	☑	☐	☐	☐	
1.02	Is the effluent discharged in accordance with the discharge licence?	☐	☑	☐	☐	☐	
1.03	Is the discharge of turbid water avoided?	☐	☑	☐	☐	☐	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	☐	☑	☐	☐	☐	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	☐	☑	☐	☐	☐	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	☐	☑	☐	☐	☐	
1.07	Is drainage system well maintained?	☐	☑	☐	☐	☐	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	☐	☑	☐	☐	☐	
1.09	Are temporary exposed slopes properly covered?	☐	☑	☐	☐	☐	
1.10	Are earthworks final surfaces well compacted or protected?	☐	☑	☐	☐	☐	
1.11	Are manholes adequately covered or temporarily sealed?	☐	☑	☐	☐	☐	
1.12	Are there any procedures and equipment for rainstorm protection?	☐	☑	☐	☐	☐	
1.13	Are wheel washing facilities well maintained?	☐	☑	☐	☐	☐	
1.14	Is runoff from wheel washing facilities avoided?	☐	☑	☐	☐	☐	
1.15	Are there toilets provided on site?	☐	☑	☐	☐	☐	
1.16	Are toilets properly maintained?	☐	☑	☐	☐	☐	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	☑	☐	☐	☐	☐	
1.18	Is the oil leakage or spillage avoided?	☐	☑	☐	☐	☐	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	☐	☑	☐	☐	☐	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	☑	☐	☐	☐	☐	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	☑	☐	☐	☐	☐	
1.22	Are the oil interceptors/grease traps maintained properly?	☑	☐	☐	☐	☐	

Environmental Site Inspection Checklist for KT15

AECOM

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
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 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☑	☐	☐	☐	
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?	☑	☐	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☑	☐	☐	☐	
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?	☑	☐	☐	☐	☐	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☑	☐	☐	☐	☐	
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?	☑	☐	☐	☐	☐	
3.06	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?	☑	☐	☐	☐	☐	
3.08	Are flaps and panels of mechanical equipment closed during operation?	☐	☑	☐	☐	☐	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	☐	☐	☐	☐	☑	

Environmental 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?	☐	☐	☐	☐	☑	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	☐	☐	☐	☐	☑	
3.12	Is quiet plant used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures)?	☑	☐	☐	☐	☐	
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/m^2 provided for noise mitigation measures (Level 2 mitigation measures)?	☑	☐	☐	☐	☐	
Section 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 properly and regularly?	☐	☐	☐	☑	☐	Remark ①
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?	☐	☑	☐	☐	☐	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	☐	☑	☐	☐	☐	
4.10	Are incompatible chemical wastes stored in different areas?	☐	☑	☐	☐	☐	
4.11	Are the chemical wastes disposed of by licensed collectors?	☐	☑	☐	☐	☐	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	☐	☑	☐	☐	☐	
4.13	Are chemical/fuel storage areas bunded?	☐	☑	☐	☐	☐	
4.14	Are designated areas identified for storage and sorting of construction wastes?	☐	☑	☐	☐	☐	
4.15	Are construction wastes sorted (inert and non-inert) on site?	☐	☑	☐	☐	☐	
4.16	Are construction wastes reused?	☐	☑	☐	☐	☐	
4.17	Are construction wastes disposed of properly?	☐	☐	☐	☑	☐	Remark ②
4.18	Are site hoardings and signboards made of durable materials instead of timber?	☐	☑	☐	☐	☐	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	☐	☑	☐	☐	☐	
4.20	Are appropriate procedures followed if contaminated material exists?	☐	☑	☐	☐	☐	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	☐	☑	☐	☐	☐	
4.22	Is site cleanliness and appropriate waste management training provided for the site workers?	☐	☑	☐	☐	☐	
4.23	Are contaminated sediments managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002?	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	

Environmental Site Inspection Checklist for KT15

AECOM

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☑	☐	☐	☐	☐	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☑	☐	☐	☐	☐	
Section 6: Ecology							
6.01	Are gabion banks and base provided for channel linings and banks for typical sections of KT15?	☐	☑	☐	☐	☐	
6.02	Is site effluent/runoff discharge to the seasonal wetlands at KT15 prevented?	☐	☑	☐	☐	☐	
6.03	Are stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 prohibited?	☐	☑	☐	☐	☐	
Section 7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☑	☐	☐	☐	

<Follow - up observations>:

① No larvicidal oil & battery were found on ground at Bay 4 & 17. The Contractor had removed the chemicals off site & disposed off as chemical wastes. (closed).

<New observations>:

② General housekeeping on site shall be improved. C&D wastes & free debris found on site shall be regularly removed off site. The Contractor shall inspect the site condition regularly.

③ Stagnant water accumulation was observed inside the tank placed at Bay 40. The Contractor shall pump the stagnant water off to prevent mosquito breeding.

Remarks

RE's representative	*IEC's representative*	*ET's representative*	*Contractor's representative*
(Joe Chan)	(Agnes Law)	(Ben Tam)	(T.Y. Cheung)

Environmental Site Inspection Checklist for KT15

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**	**Inspected by**	
		RE/RE's representative:	K. P. Cheung
Inspection		**IEC/IEC's representative:**	
Date:	23 September 2009	**ETL/ ET's representative:**	Nicola Hon
Time:	10:00	**Contractor's representative:**	Ray Cheung
		Checklist No.	KT15-230909

PART A: GENERAL INFORMATION **Environmental Permit No. NA**

Weather:	☑ Sunny	☐ Fine	☐ Cloudy	☐ Rainy
Temperature:	28.3 ^{0}C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☐ Strong	☐ Breeze	☑ Light	☐ Calm

PART B: SITE AUDIT

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 1: Water Quality							
1.01	Is an effluent discharge license obtained for the Project?	☐	☑	☐	☐	☐	
1.02	Is the effluent discharged in accordance with the discharge licence?	☐	☑	☐	☐	☐	
1.03	Is the discharge of turbid water avoided?	☐	☑	☐	☐	☐	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	☐	☑	☐	☐	☐	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	☐	☑	☐	☐	☐	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	☐	☑	☐	☐	☐	
1.07	Is drainage system well maintained?	☐	☑	☐	☐	☐	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	☐	☑	☐	☐	☐	
1.09	Are temporary exposed slopes properly covered?	☐	☐	☐	☑	☐	Remark 1
1.10	Are earthworks final surfaces well compacted or protected?	☐	☐	☐	☐	☑	
1.11	Are manholes adequately covered or temporarily sealed?	☐	☑	☐	☐	☐	
1.12	Are there any procedures and equipment for rainstorm protection?	☐	☑	☐	☐	☐	
1.13	Are wheel washing facilities well maintained?	☐	☑	☐	☐	☐	
1.14	Is runoff from wheel washing facilities avoided?	☐	☑	☐	☐	☐	
1.15	Are there toilets provided on site?	☐	☑	☐	☐	☐	
1.16	Are toilets properly maintained?	☐	☑	☐	☐	☐	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	☐	☐	☐	☐	☑	
1.18	Is the oil leakage or spillage avoided?	☐	☑	☐	☐	☐	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	☐	☑	☐	☐	☐	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	☐	☐	☐	☐	☑	
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	☐	☐	☐	☐	☑	
1.22	Are the oil interceptors/grease traps maintained properly?	☐	☐	☐	☐	☑	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	☐	☐	☐	☐	☑	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?	☐	☐	☐	☐	☑	
1.26	Sediments at the dewatering of the streams should be dry before excavation.	☐	☐	☐	☐	☑	
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.	☐	☐	☐	☐	☑	
1.28	License collector should be employed for handling the sewage of mobile toilet.	☐	☑	☐	☐	☐	
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.	☐	☑	☐	☐	☐	
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☐	☐	☐	☑	
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 20km/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	Excavated odourous materials shall be transported away from site immediately if possible?	☐	☐	☐	☐	☑	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?	☐	☑	☐	☐	☐	
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?	☐	☐	☐	☐	☑	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?	☐	☐	☐	☐	☑	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☐	☑	☐	☐	☐	
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	

		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)?	☐	☐	☐	☐	☑	
3.06	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?	☐	☐	☐	☐	☑	
3.08	Are flaps and panels of mechanical equipment closed during operation?	☐	☐	☐	☐	☑	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	☐	☐	☐	☐	☑	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	☐	☐	☐	☐	☑	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
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)	☐	☐	☐	☐	☑	
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).	☐	☐	☐	☐	☑	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?	☐	☑	☐	☐	☐	
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?	☐	☐	☐	☐	☑	
Section 4: Waste/Chemical Management							
4.01	Waste Management Plan had been submit 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 properly and regularly?	☐	☑	☐	☐	☐	
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?	☐	☑	☐	☐	☐	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	☐	☑	☐	☐	☐	
4.10	Are incompatible chemical wastes stored in different areas?	☐	☑	☐	☐	☐	
4.11	Are the chemical wastes disposed of by licensed collectors?	☐	☑	☐	☐	☐	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	☐	☑	☐	☐	☐	
4.13	Are chemical/fuel storage areas bunded?	☐	☑	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?	☐	☑	☐	☐	☐	
4.15	Are construction wastes sorted (inert and non-inert) on site?	☐	☑	☐	☐	☐	
4.16	Are construction wastes reused?	☐	☑	☐	☐	☐	
4.17	Are construction wastes disposed of properly?	☐	☑	☐	☐	☐	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	☐	☑	☐	☐	☐	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	☐	☑	☐	☐	☐	
4.20	Are appropriate procedures followed if contaminated material exists?	☐	☐	☐	☐	☑	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	☐	☑	☐	☐	☐	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	☐	☑	☐	☐	☐	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☐	☐	☐	☐	☑	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 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?	☐	☑	☐	☐	☐	
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).	☐	☑	☐	☐	☐	
6.03	Works in the marsh and other disturbances to this area is avoided?	☐	☑	☐	☐	☐	
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?	☐	☑	☐	☐	☐	
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?	☐	☑	☐	☐	☐	
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.	☐	☑	☐	☐	☐	
Section7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☐	☐	☐	☑	

Remarks

Follow-Up of Last Site Inspection (16 September 2009):

1. Housekeeping is required further improvement.
2. The stagnant water cumulated inside the unused sedimentation tank at Bay 40 has been cleared.

Finding of Site Inspection on 23 September 2009:

Remark 1: Exposed surface was observed at Bay 1, the Contractor was reminded to cover it with tarpaulin sheet to prevent generation of surface run-off.

RE's representative	*IEC's representative*	*ET's representative*	*Contractor's representative*
( )	( )	(Nicola Hon)	(T.Y. Cheung)

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 Summary Report for September 2009 (R1485 Version 1)
Response to IEC's comments [Received from e-mail on 12-Oct-2009]

Items	Section / Paragraph	Comments	Response to Comments
1	ES14. /Section 5.10	There is a typo in the paragraph. It should be "Those activities would not cause excessive disturbance to the adjacent wetlands.".	Noted and amended.
2	Section 2.02	Please rewrite the bulletin point as "Backfilling behind completed structure", "Road construction", "Gabion installation" and "Planting tree".	Noted and amended.
3	Table 7-1	There are typos found in the table: For 2-Sept-2009 follow-up status section, it should be "the construction waste observed at Ch.1300 was found.." in order to keep consistency of the texts. For 16-Sept-2009, For findings/deficiencies section: it should "housekeeping" without space in between and "the Contractor was reminded to clear/clean up to prevent..". For follow-up status section: Please clarify the meaning of "the C&D waste scattered on site was still pending to improve". For 23-Sept-2009 findings/deficiencies section, it is advised to rewrite as "the Contractor was reminded to cover..". Please check and update the table accordingly.	Noted and amended.
4	Section 9.02 Noise 3rd bulletin point	It should be "Powered Mechanical Equipments were covered…".	Noted and amended.
5	Section 11.05	Please update the texts in Section 11.05 to keep consistency with the texts/data stated in ES14., Section 5.09, Section 5.10 and Table 5-5.	Noted and amended.
6	Section 11.07	There are typos found in the text: For the 2st bullet, it should be "housekeeping" without space in between. For the 3rd bullet, it should be "the Contractor was reminded to clear/clean up to prevent..". For the 4th bullet, it is advised to rewrite as "the Contractor was reminded to cover..". Please check and update the text accordingly.	Noted and amended.

Items	Section / Paragraph	Comments	Response to Comments
7	Appendix F	Please provide the updated calibration certificates for all air quality monitoring equipments employed during the monitoring period, i.e. Tisch High Volume Sampler 515N and TSI DuskTrak Model 8520 and update the calibration dates listed in the table.	Enclosed.
8	Appendix G	Please ensure that 6-days interval monitoring schedule was followed for 1-Hr and 24-Hr TSP monitorings to be conducted.	Noted.
9	Appendix H	Please update the graph of 1-Hr TSP readings. The graph presented is not relevant to the captioned project.	Revised.
10	Appendix I	Please cross-check the meteorological data with the data from the HKO Lau Fau Shan Automatic Weather Station.	Noted and revised.
11	Appendix J	In site inspection checklist on 9-Sept-09, Please double-check the time for site inspection as the time listed is the same as the one listed in site audit checklist for KT2. In site inspection checklist on 16-Sept-09, Please double-check the time for site inspection as the time listed is the same as the one listed in site audit checklist for KT2. In the finding item no. 1, it should be “housekeeping” without space in between. In the finding item no.2, it should be “the Contractor was reminded to clear/clean up to prevent..”. Please include the signature of IEC’s representative. In site inspection checklist on 23-Sept-09, In the finding item no.1, it is advised to rewrite as “the Contractor was reminded to cover..”. Please check and revise the items accordingly.	Amended.

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 September 2009 (R1485 Version 2)
Response to IEC's comments [Received from e-mail on 13-Oct-2009]

Items	Section / Paragraph	Comments	Response to Comments
1	Cover Page	The reference number of the file should be "TCS00371/07/600/R1485v2". Please check and revise it.	Noted. Due to this is second round comments on the submission, so the reference number of the file is "TCS00371/07/600/R1485v3" accordingly.
2	Table 7-1	For 16-Sept-2009, in follow-up status section: It is advised to rewrite as "Further improvement on housekeeping is required.".	Noted and amended.
3	Appendix F	Please double check the serial number of the High Volume Sampler as it is the same as the one listed in KT2. Also, please check if the model no. "515N" is referred to the high volume sampler or the calibration orifice as "515N" is stated as model number of calibration orifice in the calibration certificate.	Checked to clarify that the model no and serial number stipulation at the cell of high volume sampler is the calibration orifice. So new roll of calibration orifice is provided. Also the model no of high volume sampler is amended.
4	Appendix K Heading	It should be "Response to IEC's comment [Received from e-mail on 12-Oct-2009]. Please check and revise it.	Noted and updated.