PROJECT NO.: TCS/00408/08

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

THIRD QUARTERLY EM&A SUMMARY REPORT – KT13 (APRIL – JUNE 2009)

PREPARED FOR
CHINA ROAD & BRIDGE CORPORATION

Quality Index

Date	Reference No.	Prepared By	Certified by
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Version	Date	Prepared by:	Certified by:	Description
1	9 July 2009	Nicola Hon	Andrew Lau	First submission
2	13 July 2009	Nicola Hon	Andrew Lau	Amended against IEC's comment on 13 July 2009

Executive Summary

ES01 This is the third (3rd) quarterly EM&A summary report that highlights the EM&A results for the Designated Project of Channel KT13. It contains key environmental monitoring results during the period from 26 March to 25 June 2009 on air quality, construction noise, water quality, ecology and waste management.

Progress of the EM&A Programme

ES02 The impact EM&A program was undertaken in accordance with the relevant EM&A manuals. A summary of the monitoring activities in this quarter is listed below:

Environmental Issues	**Channel KT13**
1-hour TSP Monitoring	84 monitoring events
24-hour TSP Monitoring	28 monitoring events
Noise Monitoring	28 monitoring events
Water Quality Monitoring	36 monitoring days
Ecology	6 monitoring days
Site Inspection Audit	14 occasions

Breaches of Environmental Quality Criteria

ES03 Monitoring results of the Reporting Period demonstrated no exceedance of environmental quality criteria for air quality, construction noise and ecology.

ES04 For water quality, however, a total of 31 exceedances of Action/Limit Levels of which 1 and 30 exceedances were recorded at W2 and W6 respectively. The overall compliance rate of water quality monitoring in the quarter is 92.8%. Investigation showed that all exceedances were not works related.

ES05 During the Reporting Period, there was no construction work conducted within 100m of the cultural heritage site at CKT13. Therefore, no cultural heritage monitoring was required in accordance with the approved methodology. No significant changes were observed for the identified landscape resources and visual sensitive receivers, except for minor changes due to channel excavation, site clearance and preparation work at the identified landscape resources including LR1, LR2.1, LR2.2, LCA1, LCA3 and LCA4.

ES07 A summary of all environmental exceedances is presented as follows:

Issues	Parameters	Compliance Rate % Channel KT13	Investigation Results & Corrective Actions
Air Quality	24-hour TSP	100%	N/A
	1-hour TSP	100%	N/A
Noise	Leq(30min) Daytime	100%	N/A
Water Quality	Suspended Solids	80.6%	Investigation completed for Apr 09 & May 09. Investigation in progress for Jun 09
	Turbidity	77.8%	
	Ammonia-N	98.5%	
	pH	100%	N/A
	Dissolved Oxygen	100%	N/A
	Zinc	100%	N/A
Ecology	Decrease in number of breeding egrets since previous year	100%	N/A

Environmental Complaint, Notifications of Summons and Prosecutions

ES08 No documented complaint, notification of summons and successful prosecution was received during the Reporting Period. No major environmental impacts were observed during the weekly site inspection. Environmental audit of the Reporting Period, indicated that the implemented mitigation measures for air quality, construction noise and ecology were effective. Minor deficiencies found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

Reporting Changes

ES09 No reporting changes were made during the Reporting Period.

Future key issues

ES10 As wet season has come water quality mitigation measures to avoid ingress of runoff into Channel KT13 should be properly installed and maintained, as appropriate.

ES11 To prevent exceedance of water quality, it is recommended that water quality mitigation measures stipulated in the EIA and summarized in the EM&A Manual, including containment structure such as temporary earth bunds, sand bags, sheet pile barriers or other similar techniques, should be fully implemented. In addition, other mitigation measures such as sand bags downstream of the excavation site may also be improved to cater for additional water flows during the coming wet season.

ES12 Proposal for adopting the pH range of 6 to 9 pH value in place of the existing pH Action and Limit Level has been approved by ER and IEC's. The submission has been proceeding to EPD for formal approval.

END OF TEXT

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1 INTRODUCTION

1.1.1 BASIC PROJECT BACKGROUND

CRBC has been awarded the DSD Contract No. DC/2007/17 (the Project) for a package of drainage improvement works in areas located in Kam Tin, Pat Heung and Tuen Mun as shown in ***Appendix A***.

The Project involves construction of five drainage channels, namely Channels KT12, KT13 (under Environmental Permit No.EP263/2007), KT14A (under Environmental Permit No. EP231/2005A), KT14B and KT14C in Kam Tin and Pat Heung and the sewerage works at Tseng Tau Chung Tsuen in Tuen Mun. For ease of reporting, the EM&A report under the Project is split to the following three stand-alone parts:

EM&A Report – Channel KT13 (under EP No.EP263/2007);

EM&A Report – Channel KT14A (under EP No. EP231/2005A); and

EM&A Report – Channels KT12, KT14B and KT14C (Non-Designated works, under no Environmental Permit)

This report presents the EM&A results of the Designated Projects works for Channel KT13. It is the Third (3rd) Quarterly EM&A Summary Report covering a three-month period from 26 March to 25 June 2009 (the Reporting Period).

1.1.2 REPORT STRUCTURE

This Report is structured as follows:

Section 1	Introduction
Section 2	Summary of Impact Environmental Monitoring and Audit Requirements
Section 3	Monitoring Results and Breaches of Environmental Quality Criteria
Section 4	Non-compliance, Complaint, Notifications of Summons and Successful Prosecution
Section 5	Conclusion

1.1.3 PROJECT ORGANISATION AND CONSTRUCTION PROGRESS

1.1.4 ENVIRONMENTAL MANAGEMENT ORGANIZATION

The environmental management team comprises: DSD (Project Proponent), CRBC (main Contractor), EPD and AFCD (supervisory departments in Government), BVHKL (ER); ARUP (IEC) and AUES (ET). Detailed management organization including organisation structure and key personnel contacts is presented in ***Appendix B.***

1.1.5 WORKS UNDERTAKEN DURING THE QUARTER REPORTING PERIOD

Construction activities implemented during the Reporting Period are presented in ***Appendix C***. In addition to the preparation works and site clearance, including underground utility investigation, tree survey, tree pruning and tree transplant, major construction activities are summarized as follows:

26 March to 25 April 2009

- Excavation for channel formation;
- Construction of channel structure;
- Backfilling and drain laying work; and
- Installation of Type 2 railing

26 April to 25 May 2009

- Excavation for channel formation;
- Construction of channel structure;
- Backfilling and drain laying work; and
- Installation of Type 2 railing

26 May to 25 June 2009

- Excavation of channel formation ;
- Construction of channel structure;
- Backfilling; and
- Installation of Type 2 railing

1.1.6 ENVIRONMENTAL LICENSING STATUS

The environmental licensing status in the quarter reporting period is summarized in ***Table 1-1***.

Table 1.1 Status of Environmental Licenses and Permits

Item	License / Permit Description	Status
1	Air Pollution Control (Construction Dust)	Notified EPD on 14-Feb-08
2	Water Pollution Control (Discharge License) License No. 1U461/1	Valid
3	Chemical Waste Producer Registration WPN: 5611-531-C3124-28	Registration on 2-May-08
4	Construction Waste Disposal Billing Account Number 7006524	Valid on 9 Jan 2008

2 SUMMARY OF IMPACT ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

2.1.1 MONITORING PARAMETERS

The ET has compiled the EM&A requirements set out in the associated EM&A Manuals in the ***Environmental Monitoring Methodology***, which has been agreed by the ER and IEC. The monitoring parameters are summarized below.

Table 2-1 Summary of Monitoring Parameters

Environmental Issues	Monitoring Parameters	
Air Quality	(a) 1-hour Total Suspended Particulate (1-hr TSP); and (b) 24-hour Total Suspended Particulate (24-hr TSP).	
Construction Noise	(a) A-weighted equivalent continuous sound pressure level (30min) (Leq(30min) during the normal working hours; and (b) A-weighted equivalent continuous sound pressure level (5min) (Leq(5min) for construction work during the Restricted Hours.	
Water Quality	(a) In Situ Measurement	temperature, dissolved oxygen (DO), pH & Turbidity
	(b) Laboratory Analysis	suspended solids (SS), Ammonia Nitrogen (NH_3-N) and Zinc (Zn)
Ecology	Vegetation, All bird species of wetland, Ho Pui Egret, Ma On Hong Egret and Flight Line Survey	
Waste Management	Inspection and the document audit	
Cultural Heritage	Condition survey for a historical grave	
Landscape & Visual	To audit the implementation of the proposed construction phase mitigation measure stipulated in EIA.	

2.1.2 MONITORING LOCATIONS

Details of monitoring locations are summarized in ***Table 2-2*** and shown in ***Appendix A***.

Table 2-2 Summary of Monitoring Locations

Environmental Issue	Monitoring Location ID	Identified Address / Co-ordinates	Status of Monitoring Locations / Rationale for Recommended Replacement
Air	A1(a)	No.68 Ho Pui Village	The original location of EM&A Manuals A1 has permanently been abandoned. No access can be acquired in the vicinity of A1. Taken into consideration that Ho Pui Village is one of the most important sensitive receivers near KT-13 without monitoring, the most fronting house, No. 68 Ho Pui Village, is therefore recommended as the replacement location A1(a).
	A2	No.1 Ma On Kong Village	Original location of the EM&A Manual; access granted.
Noise	N1(a)	168-169 Kam Ho Road, Ma On Kong Village,	Original location of N1 identified in the EM&A Manual was relocated to proposed area as recommended by IEC.
	N2(a)	No. 68 Ho Pui Village,	The original location of EM&A Manuals N2 has permanently been abandoned. No access can be acquired in the vicinity of N2. Taken into consideration that Ho Pui Village is one of the most important sensitive receivers near KT-13 without monitoring, the most fronting house, No. 68 Ho Pui Village, is therefore recommended as the replacement location N2(a).
	N3	No.1 Ma On Kong Village	Original locations of the EM&A Manual; access granted.
Water	W1	E824539 / N830283	Original locations of the EM&A Manual; access resolved.
	W2	E824693 / N830258	Original locations of the EM&A Manual; access resolved.
	W3(a)	E824833 / N830374	The W3 is proposed to be relocated about 55 m down stream to W3(a) for safety reason as there is no any discharge point observed between W3 and the proposed W3(a).
	W4	E824936 / N830618	Original locations of the EM&A Manual; access resolved.
	W5	E825008 / N830812	Original locations of the EM&A Manual; access resolved.
	W6	E825100 / N830987	Original locations of the EM&A Manual; access resolved.

Environmental Issue	Monitoring Location ID	Identified Address / Co-ordinates	Status of Monitoring Locations / Rationale for Recommended Replacement
Ecology	Monthly monitoring along the boundary of the works area to confirm that there are no adverse impacts on habitats outside the site in particular the Conservation Area (CA) zone and Ho Pui Egretry. Photographic records at six-month intervals; Monthly monitoring of all bird numbers including wetland species and species identified as being of conservation importance; Monitoring of Ho Pui egretry during March to August. The Ma On Kong egretry is also surveyed to provide reference information on the breeding egrets nearby; and Flight line surveys twice per month during April to June.		
Waste Management	Whole constriction site and document		
Cultural Heritage	Ma On Kong	Refer to EM&A Manual (KT13) Figure 7.1.	
Landscape & Visual	Refer to EIA Section 10		

2.1.3 MONITORING FREQUENCY

The impact monitoring frequency and duration for air quality, construction noise, water quality, ecology and other parameters are summarized below.

2.1.4 Air Quality

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

Duration: Throughout the construction period

2.1.5 Construction Noise

Frequency: Measurement of Leq 30min: Once a week during 0700-1900 hours on normal weekdays for Leq30min

If the construction work is undertake at restrict hour, the frequency of noise monitoring will be conducted in accordance with the requirements under the related Construction Noise Permit issued by EPD as follows:

- 3 consecutive Leq5min at restrict hour from 1700 – 2300;
- 3 consecutive Leq5min for restrict hour from 2300 – 0700 next day;
- 3 consecutive Leq5min for Sunday or public holiday from 0700 – 1900;

Duration: Throughout the construction period

2.1.6 Water Quality

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

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

Duration: Throughout the construction period.

2.1.7 Ecology

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

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

Frequency: Vegetation – Impact monitoring – monthly;

Photographic records/checks against baseline records– six monthly

Wetland Bird survey – Monthly of half-day survey;

Ma On Kong egretry – Monthly between March to August; and

Ho Pui egretry – Bi-weekly between March and August;

Flight line Survey – Month during the period from April to June

Duration: Throughout the whole construction period

2.1.8 Waste Management Audit

Frequency: Once per month
Duration: Throughout the construction period.

2.1.9 Cultural Heritage

Frequency: Bi-monthly
Requirement: Condition survey of a Qing Dynasty Grave.
Duration: Throughout the construction phase period.

2.1.10 Landscape & Visual

Frequency: Bi-weekly
Duration: Throughout the construction phase period.

2.1.11 ENVIRONMENTAL QUALITY CRITERIA

The environmental quality criteria i.e. Action and Limit levels (A/L levels) are summarized as follows:

Table 2-4-1 Summary of Air Quality Monitoring Results at KT14A-A8(a)

Monitoring Station	Action Level (μg /m³)		Limit Level (μg/m³)	
	1-hr TSP	24-hr TSP	1-hr TSP	24-hr TSP
KT13(A1(a))	309	144	500	260
KT13(A2)	307	141	500	260

Table 2-4-2 Action and Limit Levels of Construction Noise Monitoring (Leq $_{(30mins)}$)

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

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

Table 2-4-3 Water Quality Action and Limit Levels

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

Notes: # Act as Control Station for the Impact Water Quality Monitoring.
* Alternative Action Level of the Turbidity, pH, Suspended Solid, Ammonia Nitrogen and Zinc are 120% of upstream control station of same day.
** Alternative Action Level of the Turbidity, pH, Suspended Solid, Ammonia Nitrogen and Zinc are 130% of upstream control station of same day.

Table 2-4-4 Action and Limit Levels for Cultural Heritage Resources

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

Table 2-4-5 Ecological Action and Limit Levels

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

2.1.12 ENVIRONMENTAL MITIGATION MEASURES

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

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

3 MONITORING RESULTS AND BREACHES OF ENVIRONMENTAL QUALITY CRITERIA

The environmental monitoring results will be compared against the Action and Limit Levels established based on the baseline monitoring results and statutory criteria. In case the measured data exceed the environmental quality criteria, remedial actions will be triggered according to the Event and Action Plan. In the report quarter, the graphical plots of the treads pf monitored parameter over the past four months are presented in ***Appendix E.***

3.1.1 AIR QUALITY

Results of air quality monitoring at the identified locations during the Reporting Period are summarized in ***Tables 3-1*** below. In this quarter period, a total of 45 events of 1-hour TSP and 15 days of 24-hour TSP measurements were conducted at Locations A1(a) and A2. No exceedance of Action or Limit Levels was recorded during the Reporting Period. No Notification of Exceedance (NOE) of air quality criteria or corrective action was required.

Table 3-1 Summary of 1-hour and 24-hour TSP at KT13 in the Reporting Period

Channel	Station	1-hour TSP			24-hour TSP		
		Max	Min	Mean	Max	Min	Mean
KT13	A1(a)	114	31	82	94	14	33
Record Date		31 Mar 09	23 May 09	42 events	15 Apr 09	22 May 09 29 May 09	14 events
KT13	A2	124	37	81	58	9	22
Record Date		31 Mar 09	23 May 09	42 events	27 Apr 09	22 May 09 29 May 09	14 events

3.1.2 CONSTRUCTION NOISE

Summary of construction noise monitoring at the identified locations during the Reporting Period are summarized in ***Table 3-2*** below and graphic plots are presented in ***Appendix E.*** In this reporting quarter, a total of 30 events of construction noise measurement were conducted while no documented construction complaint was received and all the construction noise results were below the Limit level. No NOE or corrective action was recommended for this parameter.

Table 3-2 Summary of Construction Noise at Channel KT13 in the Reporting Period

Channel	Station	Leq(30min)	
		Max	Min
KT13	N1	59.8	49.5
Record Date		31 Mar 09	11 and 17 Jun 09
KT13	N2	50.6	44.8
Record Date		22 Apr 09	23 May 09
KT13	N3	60.0	49.9
Record Date		16 Apr 09	23 Jun 09

3.1.3 WATER QUALITY

3.3.1 Breaches of the Existing Water Quality A/L Levels

In this reporting quarter, a total of 37 days of water quality monitoring were conducted. There were 31 exceedances of water quality Action/Limit levels: 1 at W2 and 30 at W6, were recorded. Breaches of water quality A/L levels and statistics of the compliance status during the Reporting Period are summarized in ***Table 3-3***.

Table 3-3-1 Summaries of Breaches of the Existing Water Quality A/L Levels

Location	Exceedance	DO	Turbidity	pH	SS	NH_4^{+}-N	Zn	Total
April 2009								
W2	Action Level	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0
W6	Action Level	0	0	0	0	0	0	0
	Limit Level	0	**6**	0	**1**	0	0	**7**
Sub-Total	Action Level	0	0	0	0	0	0	0
	Limit Level	0	**6**	0	**1**	0	0	**7**
May 2009								
W2	Action Level	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0
W6	Action Level	0	**1**	0	**1**	0	0	**2**
	Limit Level	0	**3**	0	**5**	0	0	**8**
Sub-Total	Action Level	0	**1**	0	**1**	0	0	**2**
	Limit Level	0	**3**	0	**5**	0	0	**8**
June 2009								
W2	Action Level	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	**1**	0	**1**
W6	Action Level	0	0	0	**1**	0	0	**1**
	Limit Level	0	**6**	0	**6**	0	0	**12**
Sub-Total	Action Level	0	0	0	**1**	0	0	**1**
	Limit Level	0	**6**	0	**6**	**1**	0	**13**
Total of exceedance	Action Level	0	1	0	2	0	0	3
	Limit Level	0	15	0	12	**1**	0	28
Total of exceedance		0	16	0	14	1	0	31

Table 3-3-2 Summaries of Breaches of the Existing Water Quality A/L Levels at KT13

Parameter	Channels KT13	
	No. of Exceedances	Compliance%
Suspended Solids	14	80.6%
Turbidity	16	77.8%
Dissolved Oxygen	0	100%
pH	0	100%
Ammonia	1	98.5%
Zinc	0	100%
Overall	31	92.8

Monitoring results show that all exceedances were due to turbidity and suspended solid and ammonia nitrogen. In this reporting period, temperature recorded at impact stations W2 and W6 fluctuated within 18.9°C to 30.8°C; DO fluctuated within 2.86mg/L to 5.42mg/L while pH fluctuated well within 6.70 and 7.20. Total of 16 exceedances were recoded in Turbidity which fluctuated within 2.1NTU to 128.3NTU.

For Suspended Solids, total of 14 exceedances were recorded in the reporting period. The laboratory results data shown that the concentration fluctuated between 2 and 280mg/L.

Investigation report for exceedances in April 2009 and May 2009 has been completed and concluded not to be works related. No corrective actions were therefore required. For exceedances recorded in June 2009, investigation is still in progress. Statistical compliance with the environmental criteria is shown in ***Table 3-3-1 and 3-3-2.***

3.3.2 Recommendation on Revision of the Existing pH A/L Levels

As pointed out in the monthly EM&A reports of the Reporting Period, the percentile definition deviates from the consensus of the pH significance and should not be applied for establishment of pH A/L levels. A proposal on the recommended pH range of 6 to 9 to be used in place of the existing pH Action and Limit level has been submitted and awaiting EPD's approval.

3.1.4 ECOLOGY

Ecological monitoring was conducted on 18 and 25 April, 17 and 25 May, 14 June 2009. No breaches of ecological A/L levels were recorded during the Reporting Period.

April 2009

78 individuals of birds from 21 species were recorded during the survey for the present monthly monitoring on 18 April 2009. Among the birds recorded, 4 individuals of wetland dependent birds (from 1 species) were recorded. Biweekly egretry surveys on Ho Pui Egretry were conducted on 18 and 25 April 2009. No nest was found at the Ho Pui egretry during the present survey. During the walk through survey, no adverse impacts on habitats outside the boundary of the works area including the Conservation Area and the location of Ho Pui Egretry were found.

May 2009

69 individuals of birds from 24 species were recorded during the survey for the present monthly monitoring on 17 May 2009. Among the birds recorded, 6 individuals of wetland dependent birds (from 2 species) were recorded. Biweekly egretry surveys on Ho Pui Egretry were conducted on 17 and 25 May 2009. No nest was found at the Ho Pui egretry during the present survey. During the walk through survey, no adverse impacts on habitats outside the boundary of the works area including the Conservation Area and the location of Ho Pui Egretry was found.

June 2009

61 individuals of birds from 19 species were recorded during the survey for the present monthly monitoring on 14 June 2009. Among the birds recorded, 2 individuals of wetland dependent birds (from 1 species) were recorded. Monthly egretry surveys on Ho Pui Egretry were conducted on 14 June 2009. No nest was found at the Ho Pui egretry during the present survey. During the walk through survey, no adverse impacts on habitats outside the boundary of the works area including the Conservation Area and the location of Ho Pui Egretry were found.

3.1.5 OTHER MONITORING AND AUDIT

3.5.1 Waste Management

Waste management audit was performed regularly on a monthly basis. A Billing Account (The account number 7006524) under the ***Waste Disposal (Charges for Disposal of Construction Waste) Regulation*** has already been assigned on 9 Jan 2008, a discharge license No. 1U461/1 under Section 20 of the ***Water Pollution Control Ordinance*** has been issued. CRBC has also registered as a Chemical Waste Producer with EPD under the Waste Disposal (Chemical Waste) (General) Regulation and the Waste Producer Number assigned is WPN: 5611-531-C3124-28 dated 2 May 08.

3.5.2 Cultural Heritage

There was no construction work conducted within 100 m area from the grave, so the captioned monitoring was not required for the Reporting Period.

3.5.3 Landscape and Visual

A total of six (6) occasions of landscape and visual audit was undertaken on 6 and 20 April 2009, 8 and 18 May 2009 and 6 and 20 June 2009. The landscape and visual audit confirmed that the conditions of the identified landscape resources during the Reporting Period remained the same as those of the baseline, except minor changes of river/stream/fish pond landscape character area at LR1, LR2.1, LR2.2, LCA3 and LCA4 due to site clearance, soil stockpiling and preparation work within KT13.

Detailed landscape and visual reports and the associated mitigation measures can be found in the appendix of the corresponding previous monthly EM&A reports of the Reporting Period.

3.1.6 WEATHER CONDITIONS

April 2009

April 2009 was drier and cooler than usual. The mean temperature was 22.0 degrees, 0.5 degrees below the normal figure of 22.5 degrees. The total rainfall in the month was 108.7 millimetres, about 42 percent below the normal figure of 188.5 millimetres. The accumulated rainfall since 1 January was 230.5 millimetres, about 32 percent below the normal figure of 337.1 millimetres for the same period.

May 2009

May 2009 was drier and sunnier than usual. The total rainfall of 245.2 millimetres in the month, which was mainly recorded in the last 10 days, was about 26 percent below the normal figure of 329.5 millimetres. The accumulated rainfall since 1 January was 475.7 millimetres, about 29 percent below the normal figure of 666.6 millimetres for the same period. The total bright sunshine duration was 169.8 hours, about 23 percent above normal. The mean temperature was 25.5 degrees, 0.3 degrees below the normal figure of 25.8 degrees.

June 2009

June 2009 was drier than usual. The total rainfall of 341.8 millimetres in the month was about 12 percent below the normal figure of 388.1 millimetres. The accumulated rainfall since 1 January was 817.5 millimetres, about 22 percent below the normal figure of 1054.7 millimetres for the same period. The mean temperature was 28.1 degrees, 0.2 degrees above the normal figure of 27.9 degrees.

4 NON-COMPLIANCE, COMPLAINT, NOTIFICATION OF SUMMONS & SUCCESSFUL PROSECUTION

4.1.1 NON-COMPLIANCE

Apart from the exceedances of water quality A/L levels respectively summarized in ***Table 3-3*** above, no non-compliance or deficiency was identified during regular site inspection and environmental audit. No associated remedial actions were recommended. No other non-compliance or deficiency was identified during regular site inspection and environmental audit. No associated remedial actions were recommended.

4.1.2 ENVIRONMENTAL COMPLAINTS

No written or verbal complaints were received for each environmental issue during the Reporting Period. No associated remedial actions were recommended.

4.1.3 NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

No notifications of summons and successful prosecutions were recorded during the Reporting Period. No associated remedial actions were recommended.

4.1.4 OTHERS

4.4.1 Waste Management Status

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

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

Waste generated, re-used, recycled and disposed of during the Reporting Period is shown in ***Appendix F***: ***Monthly Summary Waste Flow Table***.

4.4.2 Site Inspection and Environmental Audit

A total of fourteen (14) occasions of weekly environmental site inspection and audit were conducted jointly by the ER, EO and ET during the Reporting Period. As no major construction activities were undertaken, no adverse environmental impacts were registered, indicating the mitigation measures implemented were effective and sufficient for the construction activities or preparation work and site clearance undertaken. Minor deficiencies found in the site inspection and audit were in general rectified within the specified deadlines. Findings of the site inspection and environmental audit are listed in ***Table 4-4-1***.

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

Date	Findings / Deficiencies	Follow-Up Status
26 March 2009	Exposed slope next to the existing stream is observed at the upper section of KT13. It is recommended to place sufficient sandbags as a barrier to prevent runoff of muddy water into the stream.	Recommendations based on the observation on 17 March 2009 were followed.
31 March 2009	No adverse environmental impacts were observed during the site inspection	Recommendations based on the observation on 26 March 2009 were followed.
8 April 2009	Construction waste was observed scattered within the site. Good site practice to avoid excessive accumulation of the waste is recommended.	Recommendations based on the observation on 31 March 2009 were followed.
16 April 2009	Debris was observed in the existing stream. The Contractor shall pay more attention to clean up the waste regularly to prevent blockage of the stream.	Recommendations based on the observation on 8 April 2009 were followed.
23 April 2009	At Channel KT13, the tarpaulin sheets on the open slope were worn, the Contractor is reminder to check the conditions of the covering sheets and replace them more frequently if necessary, especially during wet season, to avoid excessive surface run and potential water pollution.	Recommendations based on the observation on 16 April 2009 were followed.
28 April 2009	The C&D materials accumulated near the existing stream shall be removed or covered properly.	Recommendations based on the observation on 23 April 2009 were followed.
6 May 2009	Due to the potential hazard due to the swine influenza, personal hygiene and protection shall be enhanced.	Recommendations based on the observation on 28 April 2009 were followed.
12 May 2009	Worn soil cover found on side slope at KT13. The contractor shall repair and replace once aging of those covers are noted.	Recommendations based on the observation on 6 May 2009 were followed.
20 May 2009	High pressure jet shall be provided to enhance wheel washing facilities at the site exit of KT13.	Recommendations based on the observation on 12 May 2009 were followed.
26 May 2009	Worn soil cover found on side slope at KT13. The contractor shall repair and replace once aging of those covers are noted.	Recommendations based on the observation on 26 May 2009 were followed.
2 June 2009	The Contractor is reminded to clear the stagnant water accumulated within the site or with mosquito breeding measures applied.	Recommendations based on the observation on 2 June 2009 were followed.
10 June 2009	Water accumulated in the excavated pit shall be drained or backfilled with soil.	Recommendations based on the observation on 10 June 2009 were followed.
16 June 2009	The weeds grew on the steel barriers shall be removed more frequently.	Recommendations based on the observation on 16 June 2009 were followed.
25 June 2009	Stagnant water was accumulated in the channel after rainfall, the Contractor shall clean the water more frequently especially during rain season to prevent mosquito breeding.	Recommendations based on the observation on 25 June 2009 were followed.

5 CONCLUSION

This is the Third (3rd) Quarterly EM&A Report for Designated Project works during the period from 26 March 25 June 2009 summarising the environmental impact monitoring and audit results on air quality, construction noise, water quality, ecology and waste management.

Monitoring results demonstrated that no exceedances of environmental quality criteria of air quality, construction noise and ecology were recorded during the Reporting Period.

For water quality, however, a total of 31 exceedances of water quality A/L Levels exceedances were recorded, of which 1 was recorded at W2 and 30 at W6. The overall compliance of water quality monitoring during this reporting quarter is 92.8%. Investigation for exceedances in June is still in progress. Prior investigations confirmed that the exceedances were not works related.

No cultural heritage monitoring was conducted during the Reporting Period as no construction works were undertaken within 100 m area from the historical grave. The conditions of the landscape resources during the Reporting Period remained the same as the baseline, except minor changes of river/stream/fish pond landscape character area at LR1, LR2.1, LR2.2, LCA3 and LCA4 due to site clearance, soil stockpiling and preparation work within KT13.

No written or verbal complaints, notifications of summons and successful prosecutions were received (written or verbal) from any medium during the Reporting Period. No adverse environmental impacts were observed during the weekly site inspection and environmental audit which indicated that the implemented mitigation measures for air quality, construction noise, water quality and ecology were effective. Minor deficiencies were found in the weekly site inspection and audit which were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

As wet season has come, water quality mitigation measures to avoid ingress of runoff into Channel KT13 should be properly installed and maintained, as appropriate. In particularly, open stockpiles and exposed slope should be covered thoroughly with tarpaulin sheet and applied with hydroseeding, as appropriate. In addition, attention should also be paid to construction noise and other environmental issues identified in the EM&A Manual. Mitigation measures recommended in the Environmental Study Report and summarized in the Mitigation Measure Implementation Schedule should be fully implemented.

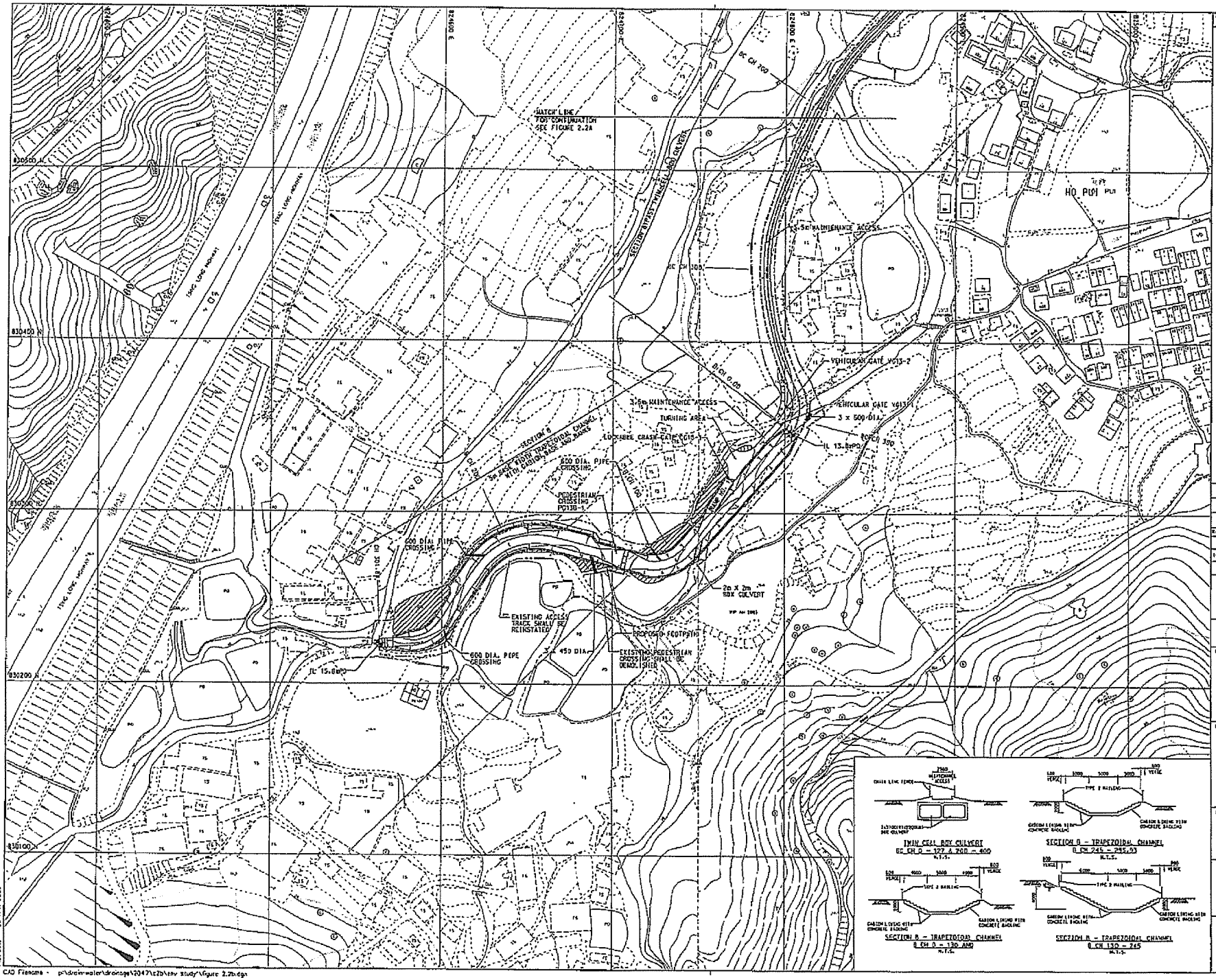
In addition, special attention should also be paid to construction noise and other environmental issues identified in the EM&A Manual. Mitigation measures recommended in the EIA and summarized in Mitigation Measure Implementation Schedule should be fully implemented.

It is recommended that the consensual pH range used in the EPD water discharge license and Technical Memorandum for Effluents Discharged into Drainage and Sewerage System, Inland and Coastal Water, etc. be used in place of the existing pH Action and Limit level.

END OF TEXT

Appendix A

Location Plan of the Project and Environmental Monitoring Locations



NOTES :

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

LEGEND :

- SITE BOUNDARY
- PROPOSED CHANNEL
- PROPOSED SLOPE
- AREA TO BE FILLED TO ADJACENT GROUND LEVEL
- I.L. INVERT LEVEL
- PROPOSED RETAINING WALL

Revision	Date	Description	Initial
C	03/06	AMENDMENT TO BY-PASS CULVERT	KIL
B	10/05	MINOR AMENDMENT TO CHANNEL LAYOUT	KIL
A	05/05	MINOR AMENDMENTS TO SITE BOUNDARY	KIL

	Designed	Checked	Drawn	Verified
Initial	TW	KIL	MK	KIL
Date	04/04	04/04	04/04	04/04

Approved

AGREEMENT NO. CE 67/98

Contract title

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

Drawing title

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

Drawing no.	Scale
FIGURE 1.3b	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
柏威工程顧問有限公司

Plot Date - 26 APR 2006

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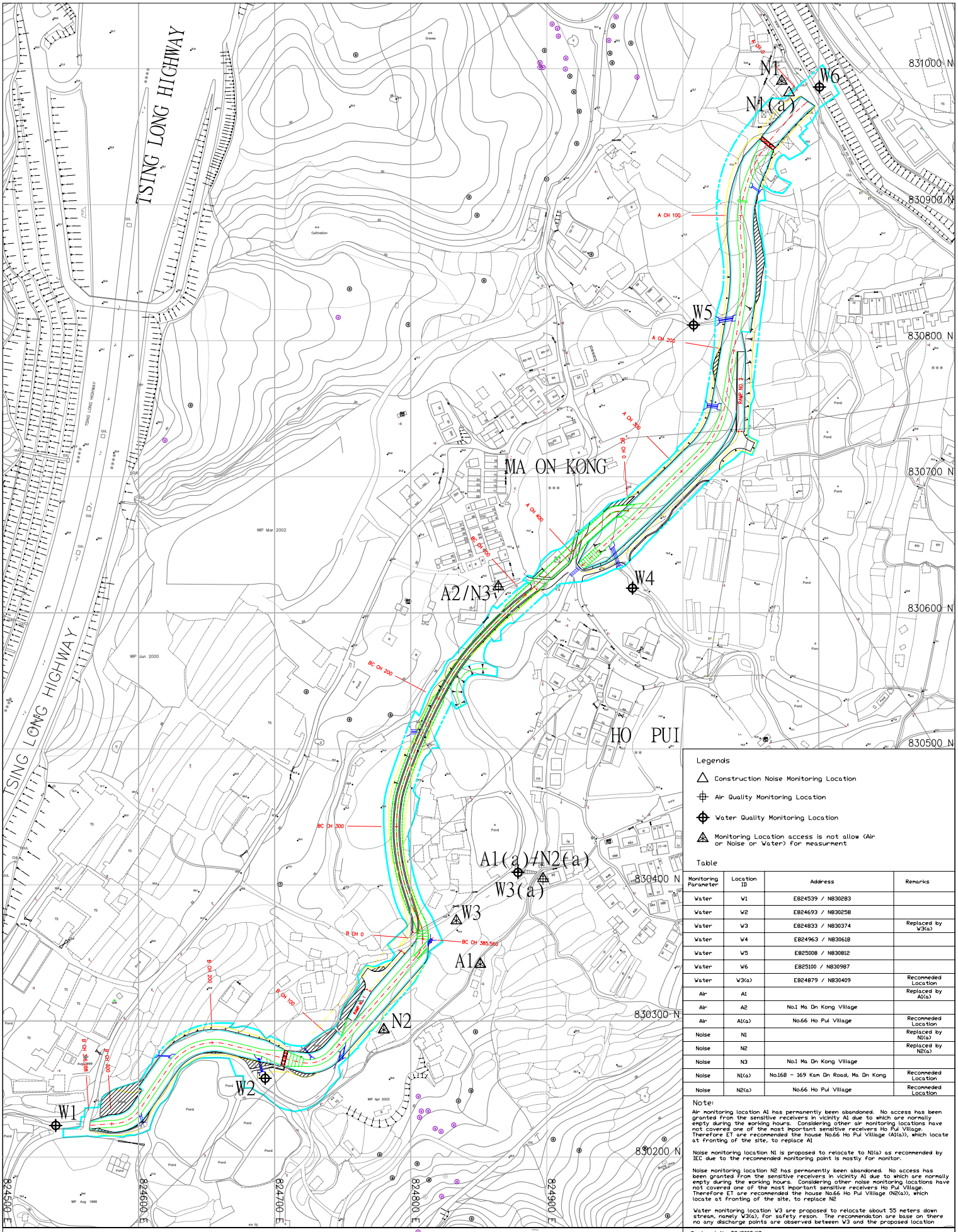

Legends

- Construction Noise Monitoring Location
- Air Quality Monitoring Location
- Water Quality Monitoring Location
- Monitoring Location access is not allow (Air or Noise or Water) for measurment

Table

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

Note:

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

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

Noise monitoring location N2 has permanently been abandoned. No access has been granted from the sensitive receivers in vicinity A1 due to which are normally empty during the working hours. Considering other noise monitoring locations have not covered one of the most important sensitive receivers Ho Pui Village. Therefore ET are recommended the house No.66 Ho Pui Village (N2(a)), which locate at fronting of the site, to replace N2

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

Drawing:

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

Contract No. DC/2007/17-
Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen and Tin San Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun

AUES

NOTES :

1. GRID LINES ARE HONG KONG METRIC GRID 1980.

LEGEND:

- MA ON KONG AND HO PUI ECRETARIES
- PROPOSED COMPENSATORY TREE PLANTING
- CONSERVATION AREA DENOTED ON OUTLINE ZONING PLAN
- WORKS BOUNDARY OF CHANNEL KY13
- ECOLOGY MONITORING AREAS

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

Approved

AGREEMENT NO. CE 67/98

Contract title

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

Drawing title

ECOLOGY MONITORING AREAS
RECOMMENDED FOR
CONSTRUCTION PHASE AND
OPERATION PHASE

Drawing no.

Figure 6.1

Scale

1:2000 A1
1:4000 A3

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

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

Plot Date : 25 APR 2006

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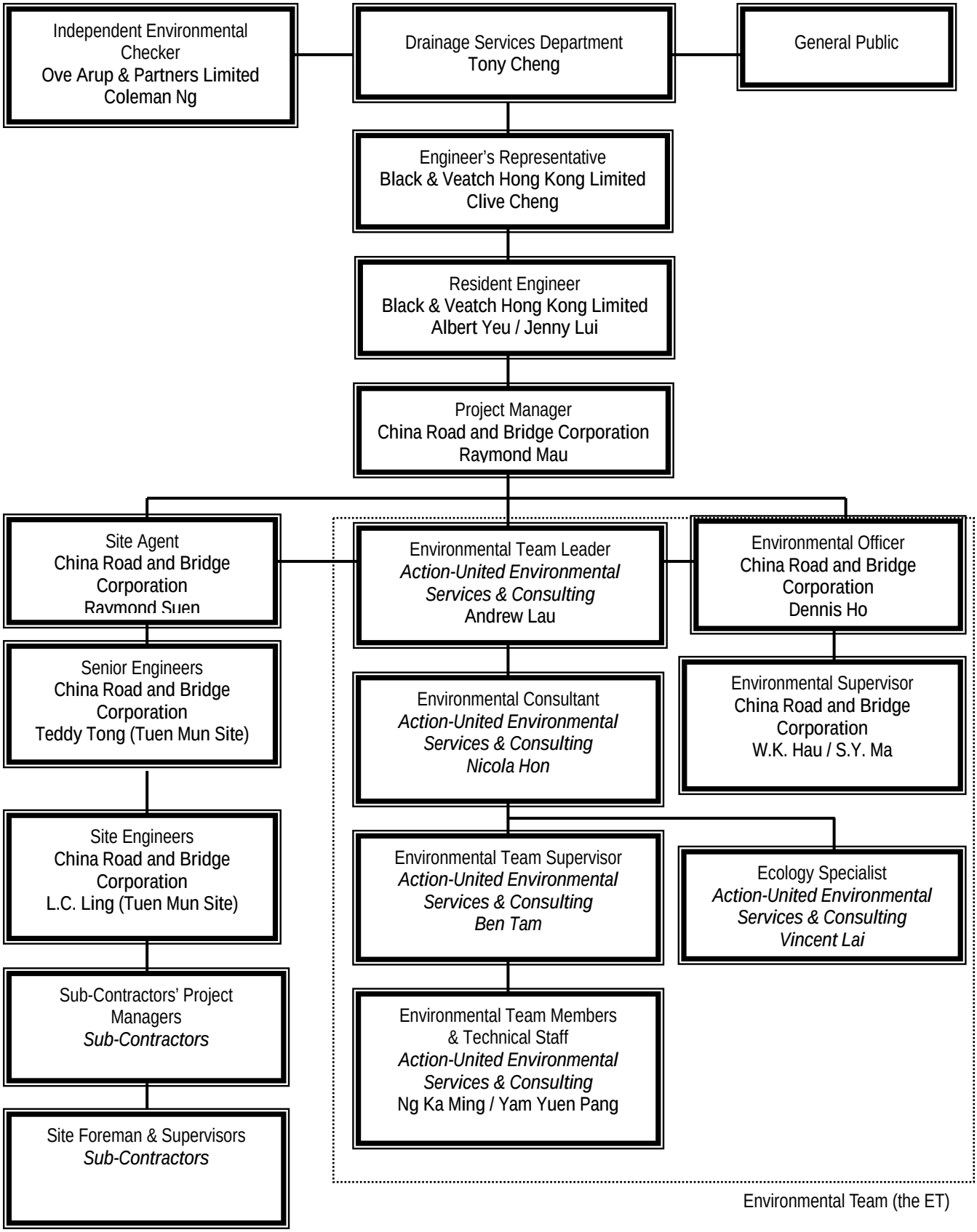
Appendix B

Environmental Management Organization and Contacts of Key Personnel



Environmental Management Organization

Contact Details of Key Personnel

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

Legend:
DSD (Employer) – Drainage Services Department
B&V (Engineer) – Black & Veatch Hong Kong Limited
CRBC (Main Contractor) – China Road and Bridge Corporation
OAP (IEC) – Ove Arup & Partners Ltd
AUES (ET) – Action-United Environmental Services & Consulting

Appendix C

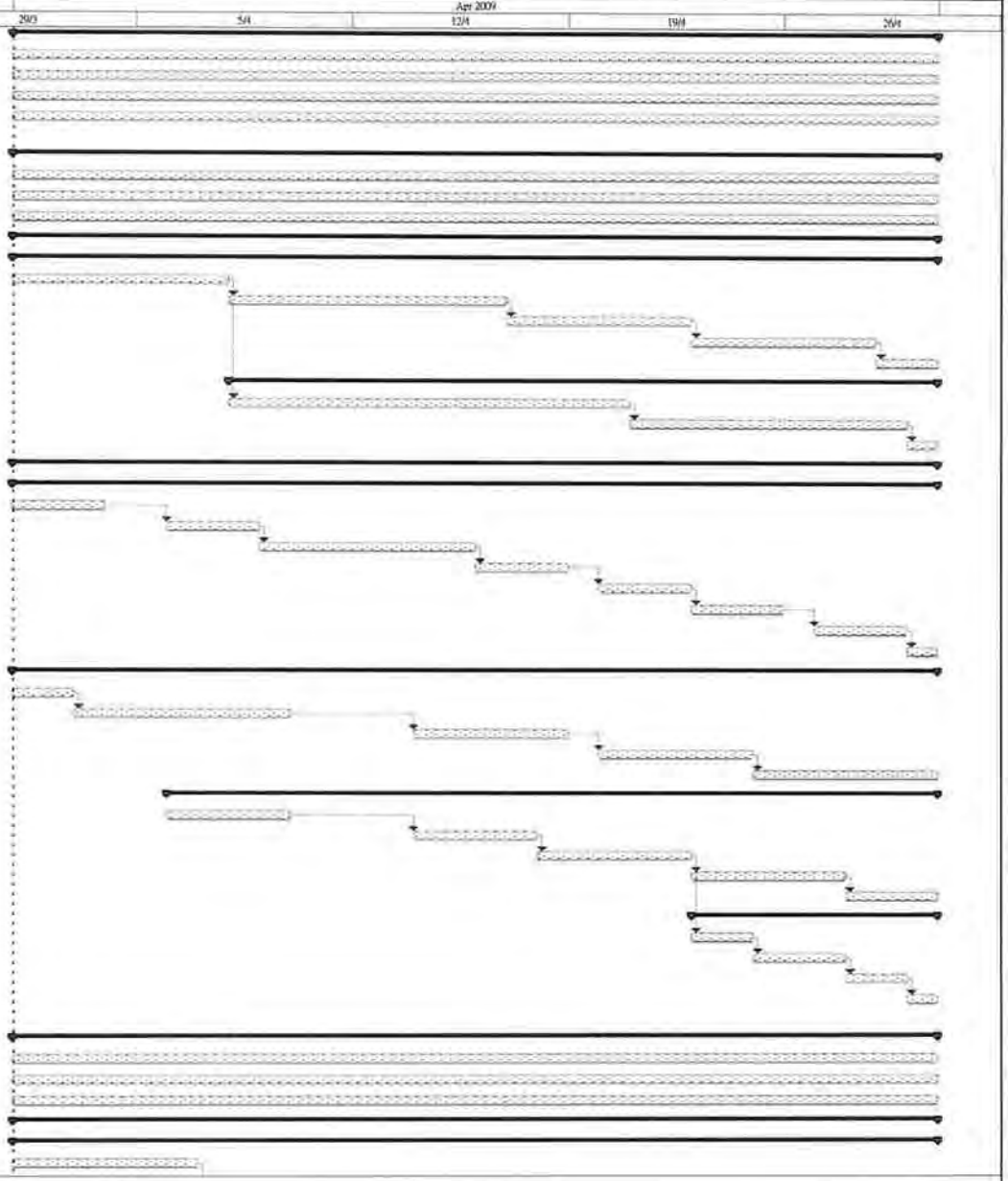
Construction Program

Contract No. DC/2007/17

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

Monthly Rolling Programme - April 2009

ID	Task Name	Duration	Start	Finish
1	Section I (Channel KT12 - Cheung Po Tsuen)	22 days	2009/4/1	2009/4/30
2	Regular Environmental Impact Monitoring	22 days	2009/4/1	2009/4/30
3	Regular Tree Survey	22 days	2009/4/1	2009/4/30
4	Regular Structural Condition Survey	22 days	2009/4/1	2009/4/30
5	Hydroseeding	22 days	2009/4/1	2009/4/30
6				
7	Section II (Channel KT13)	22 days	2009/4/1	2009/4/30
8	Regular Environmental Impact Monitoring	22 days	2009/4/1	2009/4/30
9	Regular Tree Survey & Protection	22 days	2009/4/1	2009/4/30
10	Regular Structural Condition Survey	22 days	2009/4/1	2009/4/30
11	Section A	22 days	2009/4/1	2009/4/30
12	Excavation to channel formation & laying of rock fill material (A CH0.00 - A CH402.00)	22 days	2009/4/1	2009/4/30
13	Bay A1 (A CH00.00 - A CH09.00) - RC2	5 days	2009/4/1	2009/4/7
14	Bay A2 (A CH09.00 - A CH18.00) - RC2	5 days	2009/4/8	2009/4/16
15	Bay A3 (A CH18.00 - A CH26.00) - RC2	5 days	2009/4/17	2009/4/22
16	Bay A4 (A CH26.00 - A CH34.00) - Transition	5 days	2009/4/23	2009/4/28
17	Bay A5 (A CH34.00 - A CH41.00) - Transition	2 days	2009/4/29	2009/4/30
18	Construction of channel structure (RC2, Transition, and TG2)	17 days	2009/4/8	2009/4/30
19	Bay A1 (A CH00.00 - A CH09.00) - RC2	8 days	2009/4/8	2009/4/20
20	Bay A2 (A CH09.00 - A CH18.00) - RC2	8 days	2009/4/21	2009/4/29
21	Bay A3 (A CH18.00 - A CH26.00) - RC2	1 day	2009/4/30	2009/4/30
22	Section B	22 days	2009/4/1	2009/4/30
23	Excavation for channel formation & laying of rock fill material (B CH0.00 - B CH316.00)	22 days	2009/4/1	2009/4/30
24	Bay B30 (B CH302.00 - B CH312.00) - Transition	3 days	2009/4/1	2009/4/3
25	Bay B15 (B CH144.00 - B CH147.00) - Transition & Pedestrian Crossing	3 days	2009/4/6	2009/4/8
26	Bay B14 (B CH137.00 - B CH144.00) - Transition	3 days	2009/4/9	2009/4/15
27	Bay B13 (B CH129.00 - B CH137.00) - Transition	3 days	2009/4/16	2009/4/18
28	Bay B12 (B CH119.00 - B CH129.00) - TG3	3 days	2009/4/20	2009/4/22
29	Bay B11 (B CH107.00 - B CH119.00) - TG3	3 days	2009/4/23	2009/4/25
30	Bay B10 (B CH94.00 - B CH107.00) - TG3	3 days	2009/4/27	2009/4/29
31	Bay B9 (B CH80.00 - B CH94.00) - TG3	1 day	2009/4/30	2009/4/30
32	Construction of channel structure (Transition, TG3, TG4, TG5, and TG8)	22 days	2009/4/1	2009/4/30
33	Bay B17 (B CH154.00 - B CH162.00) - Transition	2 days	2009/4/1	2009/4/2
34	Bay B16 (B CH147.00 - B CH154.00) - Transition	5 days	2009/4/3	2009/4/9
35	Bay B30 (B CH302.00 - B CH312.00) - Transition	5 days	2009/4/14	2009/4/18
36	Bay B15 (B CH144.00 - B CH147.00) - Transition & Pedestrian Crossing	5 days	2009/4/20	2009/4/24
37	Bay B14 (B CH137.00 - B CH144.00) - Transition	5 days	2009/4/25	2009/4/30
38	Backfilling along the sides of channel & laying of underground drain	19 days	2009/4/6	2009/4/30
39	Bay B28 (B CH282.00 - B CH294.00) - TG4	4 days	2009/4/6	2009/4/9
40	Bay B27 (B CH270.00 - B CH282.00) - TG4	4 days	2009/4/14	2009/4/17
41	Bay B26 (B CH260.00 - B CH270.00) - TG4	4 days	2009/4/18	2009/4/22
42	Bay B25 (B CH248.00 - B CH260.00) - TG5	4 days	2009/4/23	2009/4/27
43	Bay B24 (B CH236.00 - B CH248.00) - TG5	3 days	2009/4/28	2009/4/30
44	Installation of Type 2 railing on top of channel wall	7 days	2009/4/23	2009/4/30
45	Bay B28 (B CH282.00 - B CH294.00) - TG4	2 days	2009/4/23	2009/4/24
46	Bay B27 (B CH270.00 - B CH282.00) - TG4	2 days	2009/4/25	2009/4/27
47	Bay B26 (B CH260.00 - B CH270.00) - TG4	2 days	2009/4/28	2009/4/29
48	Bay B25 (B CH248.00 - B CH260.00) - TG5	1 day	2009/4/30	2009/4/30
49				
50	Section III (Channel KT14A - Tin Sam Tsuen)	22 days	2009/4/1	2009/4/30
51	Regular Environmental Impact Monitoring	22 days	2009/4/1	2009/4/30
52	Regular Tree Survey	22 days	2009/4/1	2009/4/30
53	Regular Structural Condition Survey	22 days	2009/4/1	2009/4/30
54	Construction of rectangular channel 2.5m(W) x 2.8m(H) Type RC1 (CH0.00 - CH150.00)	22 days	2009/4/1	2009/4/30
55	Excavation to channel formation (CH0.00 - CH150.00)	22 days	2009/4/1	2009/4/30
56	Bay A10 (CH89.00 - CH101.00)	4 days	2009/4/1	2009/4/6



Task Progress Summary External Tasks Split

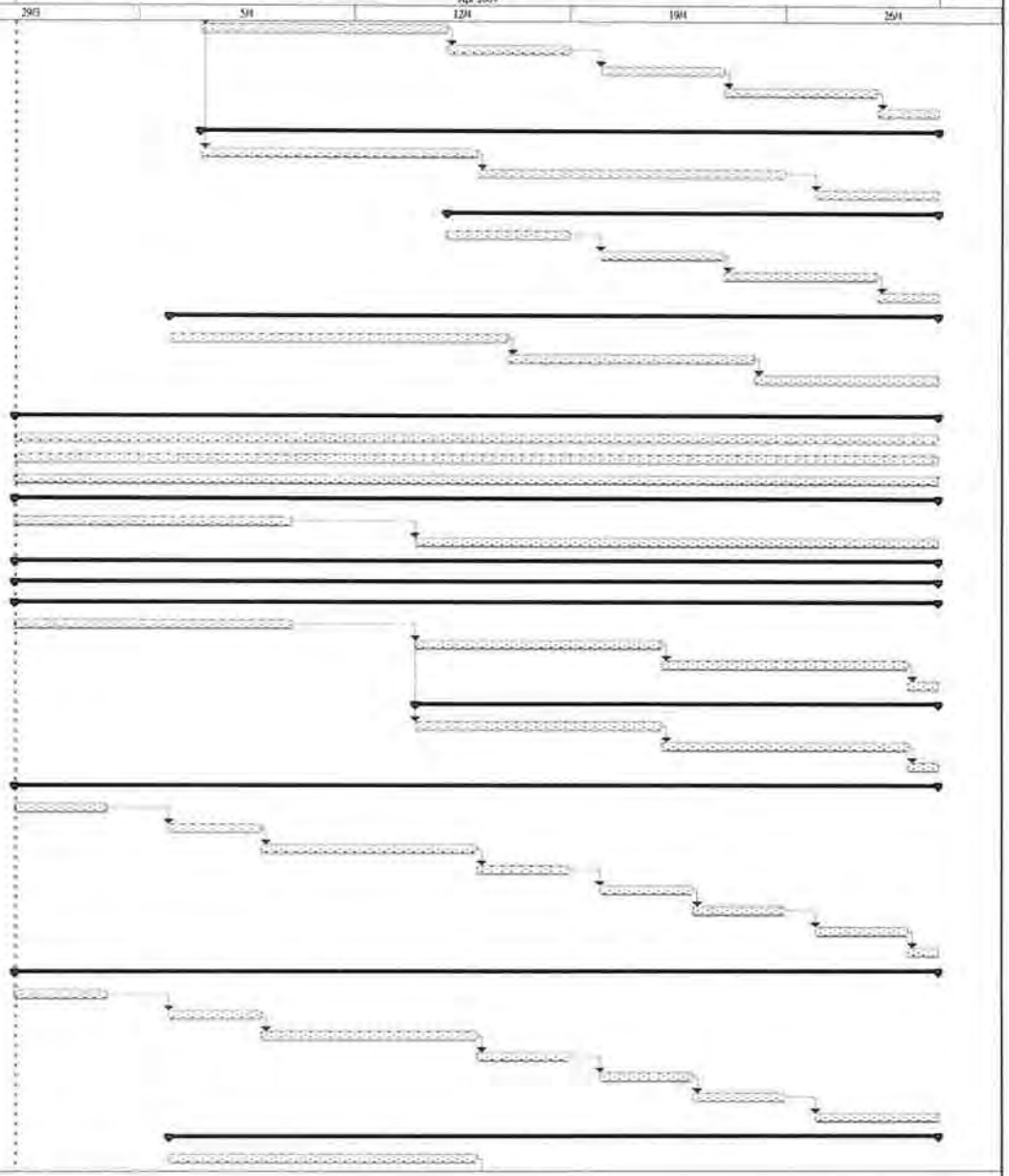
Split Milestone Project Summary External MileTasks

Contract No. : DC/2007/17

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

Monthly Rolling Programme - April 2009

ID	Task Name	Duration	Start	Finish
57	Bay A11 (CH101.00 - CH113.00)	4 days	2009/4/7	2009/4/14
58	Bay A12 (CH113.00 - CH125.00)	4 days	2009/4/15	2009/4/18
59	Bay A13 (CH125.00 - CH132.00)	4 days	2009/4/20	2009/4/23
60	Bay A14 (CH132.00 - CH140.00)	4 days	2009/4/24	2009/4/28
61	Bay A15 (CH140.00 - CH147.00)	2 days	2009/4/29	2009/4/30
62	Construction of channel structure (CH0.00 - CH150.00)	18 days	2009/4/7	2009/4/30
63	Bay A10 (CH89.00 - CH101.00)	5 days	2009/4/7	2009/4/15
64	Bay A11 (CH101.00 - CH113.00)	9 days	2009/4/16	2009/4/25
65	Bay A12 (CH113.00 - CH125.00)	4 days	2009/4/27	2009/4/30
66	Construction of catchpit / manhole / drain pipe along the sides of channel	14 days	2009/4/15	2009/4/30
67	Bay A1 (CH00.00 - CH12.00)	4 days	2009/4/15	2009/4/18
68	Bay A2 (CH12.00 - CH24.00)	4 days	2009/4/20	2009/4/23
69	Bay A3 (CH24.00 - CH36.00)	4 days	2009/4/24	2009/4/28
70	Bay A4 (CH36.00 - CH48.00)	2 days	2009/4/29	2009/4/30
71	Installation of Type 2 railing on top of rectangular channel (CH0.00 - CH150.00)	19 days	2009/4/6	2009/4/30
72	Bay A7 (CH57.00 - CH65.00)	7 days	2009/4/6	2009/4/16
73	Bay A8 (CH65.00 - CH77.00)	7 days	2009/4/17	2009/4/24
74	Bay A9 (CH77.00 - CH89.00)	5 days	2009/4/25	2009/4/30
75				
76	Section IV (Channel KT14B & 14C and Portion 8A & 8B)	22 days	2009/4/1	2009/4/30
77	Regular Environmental Impact Monitoring	22 days	2009/4/1	2009/4/30
78	Regular Tree Survey & Protection	22 days	2009/4/1	2009/4/30
79	Regular Structural Condition Survey	22 days	2009/4/1	2009/4/30
80	Portion 8B (CP - 1 to CP9) - Kam Sheung Road (1050 Dia. Pipe)	22 days	2009/4/1	2009/4/30
81	Manhole MH6 - Manhole MH5	7 days	2009/4/1	2009/4/9
82	Manhole MH5 - Manhole MH4	15 days	2009/4/14	2009/4/30
83	Channel 14B	22 days	2009/4/1	2009/4/30
84	Construction of rectangular channel Type RC1 (CH0.00 - CH339.00)	22 days	2009/4/1	2009/4/30
85	Excavation to channel formation & Laying rock fill material (CH0.00 - CH335.00)	22 days	2009/4/1	2009/4/30
86	Bay 29 (CH297.00 - CH307.00)	7 days	2009/4/1	2009/4/9
87	Bay 30 (CH307.00 - CH311.00) & Pedestrian Crossing PC14B-1	7 days	2009/4/14	2009/4/21
88	Bay 31 (CH311.00 - CH323.00)	7 days	2009/4/22	2009/4/29
89	Bay 32 (CH323.00 - CH335.00)	1 day	2009/4/30	2009/4/30
90	Construction of channel structure (CH0.00 - CH335.00)	15 days	2009/4/14	2009/4/30
91	Bay 29 (CH297.00 - CH307.00)	7 days	2009/4/14	2009/4/21
92	Bay 30 (CH307.00 - CH311.00) & Pedestrian Crossing PC14B-1	7 days	2009/4/22	2009/4/29
93	Bay 31 (CH311.00 - CH323.00)	1 day	2009/4/30	2009/4/30
94	Installation of Type 2 railing on top of channel walls	22 days	2009/4/1	2009/4/30
95	Bay 20 (CH207.00 - CH216.00)	3 days	2009/4/1	2009/4/3
96	Bay 21 (CH216.00 - CH220.00) & Pedestrian Crossing PC14B-2	3 days	2009/4/6	2009/4/8
97	Bay 22 (CH220.00 - CH225.00)	3 days	2009/4/9	2009/4/15
98	Bay 23 (CH225.00 - CH237.00)	3 days	2009/4/16	2009/4/18
99	Bay 24 (CH237.00 - CH249.00)	3 days	2009/4/20	2009/4/22
100	Bay 25 (CH249.00 - CH260.00)	3 days	2009/4/23	2009/4/25
101	Bay 26 (CH260.00 - CH272.00)	3 days	2009/4/27	2009/4/29
102	Bay 27 (CH272.00 - CH285.00)	1 day	2009/4/30	2009/4/30
103	Laying of gabion block inside the channel structure	22 days	2009/4/1	2009/4/30
104	Bay 22 (CH220.00 - CH225.00)	3 days	2009/4/1	2009/4/3
105	Bay 23 (CH225.00 - CH237.00)	3 days	2009/4/6	2009/4/8
106	Bay 24 (CH237.00 - CH249.00)	3 days	2009/4/9	2009/4/15
107	Bay 25 (CH249.00 - CH260.00)	3 days	2009/4/16	2009/4/18
108	Bay 26 (CH260.00 - CH272.00)	3 days	2009/4/20	2009/4/22
109	Bay 27 (CH272.00 - CH285.00)	3 days	2009/4/23	2009/4/25
110	Bay 28 (CH285.00 - CH297.00)	4 days	2009/4/27	2009/4/30
111	Construction of catchpit / manhole / drain pipe along the sides of the channel	19 days	2009/4/6	2009/4/30
112	Bay 1 (CH00.00 - CH05.00)	6 days	2009/4/6	2009/4/15



Task Progress Summary External Tasks Split

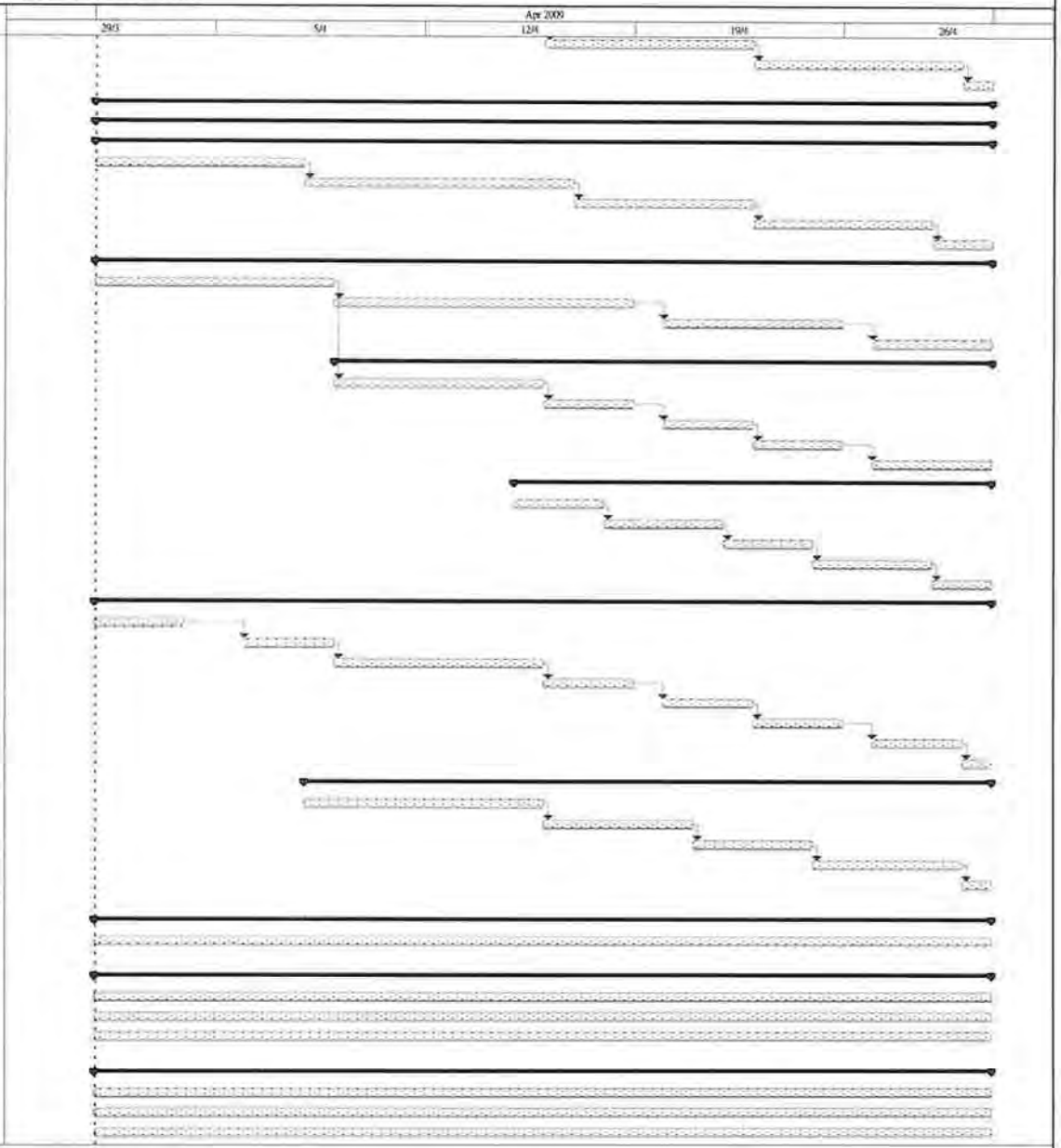
Split Milestone Project Summary External MileTasks

Contract No. DC/2007/17

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

Monthly Rolling Programme - April 2009

ID	Task Name	Duration	Start	Finish
113	Bay 2 (CH05.00 - CH08.00) & Pedestrian Crossing PC14B-3	6 days	2009/4/16	2009/4/22
114	Bay 3 (CH08.00 - CH13.00)	6 days	2009/4/23	2009/4/29
115	Bay 4 (CH13.00 - CH25.00)	1 day	2009/4/30	2009/4/30
116	Channel KT14C	22 days	2009/4/1	2009/4/30
117	Rectangular channel 2.5m(W) x 2.0m(H) Type RC-1 (CH0.00 -CH475.00)	22 days	2009/4/1	2009/4/30
118	Excavation to channel formation (CH180.00 - CH475.00) & Laying of rock fill material - East Portion	22 days	2009/4/1	2009/4/30
119	Bay 23E (CH234.00 - CH222.00)	5 days	2009/4/1	2009/4/7
120	Bay 24E (CH222.00 - CH210.00)	5 days	2009/4/8	2009/4/16
121	Bay 25E (CH210.00 - CH200.00)	5 days	2009/4/17	2009/4/22
122	Bay 26E (CH200.00 - CH188.00)	5 days	2009/4/23	2009/4/28
123	Bay 27E (CH188.00 - CH184.00)	2 days	2009/4/29	2009/4/30
124	Construction of channel structure (CH180.00 - CH475.00) - East Portion	22 days	2009/4/1	2009/4/30
125	Bay 20E (CH268.00 - CH256.00)	6 days	2009/4/1	2009/4/8
126	Bay 23E (CH234.00 - CH222.00)	6 days	2009/4/9	2009/4/18
127	Bay 24E (CH222.00 - CH210.00)	6 days	2009/4/20	2009/4/25
128	Bay 25E (CH210.00 - CH200.00)	4 days	2009/4/27	2009/4/30
129	Backfilling along the sides of the channel structure & laying underground drain pipe	16 days	2009/4/9	2009/4/30
130	Bay 20E (CH268.00 - CH256.00)	3 days	2009/4/9	2009/4/15
131	Bay 21E (CH256.00 - CH246.00)	3 days	2009/4/16	2009/4/18
132	Bay 22E (CH246.00 - CH234.00)	3 days	2009/4/20	2009/4/22
133	Bay 23E (CH234.00 - CH222.00)	3 days	2009/4/23	2009/4/25
134	Bay 24E (CH222.00 - CH210.00)	4 days	2009/4/27	2009/4/30
135	Laying gabion blocks	14 days	2009/4/15	2009/4/30
136	Bay 8E (CH404.00 - CH396.00)	3 days	2009/4/15	2009/4/17
137	Bay 9E (CH396.00 - CH394.00)	3 days	2009/4/18	2009/4/21
138	Bay 10E (CH384.00 - CH371.00)	3 days	2009/4/22	2009/4/24
139	Bay 11E (CH371.00 - CH359.00)	3 days	2009/4/25	2009/4/28
140	Bay 12E (CH359.00 - CH347.00)	2 days	2009/4/29	2009/4/30
141	Construction of catchpit / manhole / drain pipe	22 days	2009/4/1	2009/4/30
142	Bay 1W (CH0.00 - CH06.00)	3 days	2009/4/1	2009/4/3
143	Bay 2W (CH06.00 - CH12.00)	3 days	2009/4/6	2009/4/8
144	Bay 3W (CH12.00 - CH21.00)	3 days	2009/4/9	2009/4/15
145	Bay 4W (CH21.00 - CH32.00) - 2.5m(W) x 2.0m(H) Box Culvert (Type BC2)	3 days	2009/4/16	2009/4/18
146	Bay 5W (CH32.00 - CH44.00)	3 days	2009/4/20	2009/4/22
147	Bay 6W (CH44.00 - CH56.00)	3 days	2009/4/23	2009/4/25
148	Bay 7W (CH56.00 - CH68.00)	3 days	2009/4/27	2009/4/29
149	Bay 8W (CH68.00 - CH80.00)	1 day	2009/4/30	2009/4/30
150	Installation of Type 2 railing on top of channel walls	17 days	2009/4/8	2009/4/30
151	Bay 8E (CH404.00 - CH396.00)	4 days	2009/4/8	2009/4/15
152	Bay 9E (CH396.00 - CH394.00)	4 days	2009/4/16	2009/4/20
153	Bay 10E (CH384.00 - CH371.00)	4 days	2009/4/21	2009/4/24
154	Bay 15E-2 (CH318.00 - CH311.00)	4 days	2009/4/25	2009/4/29
155	Bay 16E (CH311.00 - CH299.00) - 2.5m(W) x 2.0m(H) Box Culvert (Type BC2)	1 day	2009/4/30	2009/4/30
156				
157	Section V	22 days	2009/4/1	2009/4/30
158	Preservation and protection of tree for Section I, II, III and IV	22 days	2009/4/1	2009/4/30
159				
160	Section VI - Portion 9A & 9B (Tuen Mun Sewerage Work)	22 days	2009/4/1	2009/4/30
161	Structural Survey and Monitoring	22 days	2009/4/1	2009/4/30
162	Construction of Manhole, Timber Box and Trench Excavation	22 days	2009/4/1	2009/4/30
163	Apply XP Approval for Construction	22 days	2009/4/1	2009/4/30
164				
165	Section VII - Portion 10A, 10B & 10C (Tuen Mun Sewerage Work)	22 days	2009/4/1	2009/4/30
166	Structural Survey and Monitoring	22 days	2009/4/1	2009/4/30
167	Construction of Manhole, Timber Box and Trench Excavation	22 days	2009/4/1	2009/4/30
168	Apply XP Approval for Construction	22 days	2009/4/1	2009/4/30



Task Progress Summary External Tasks Split

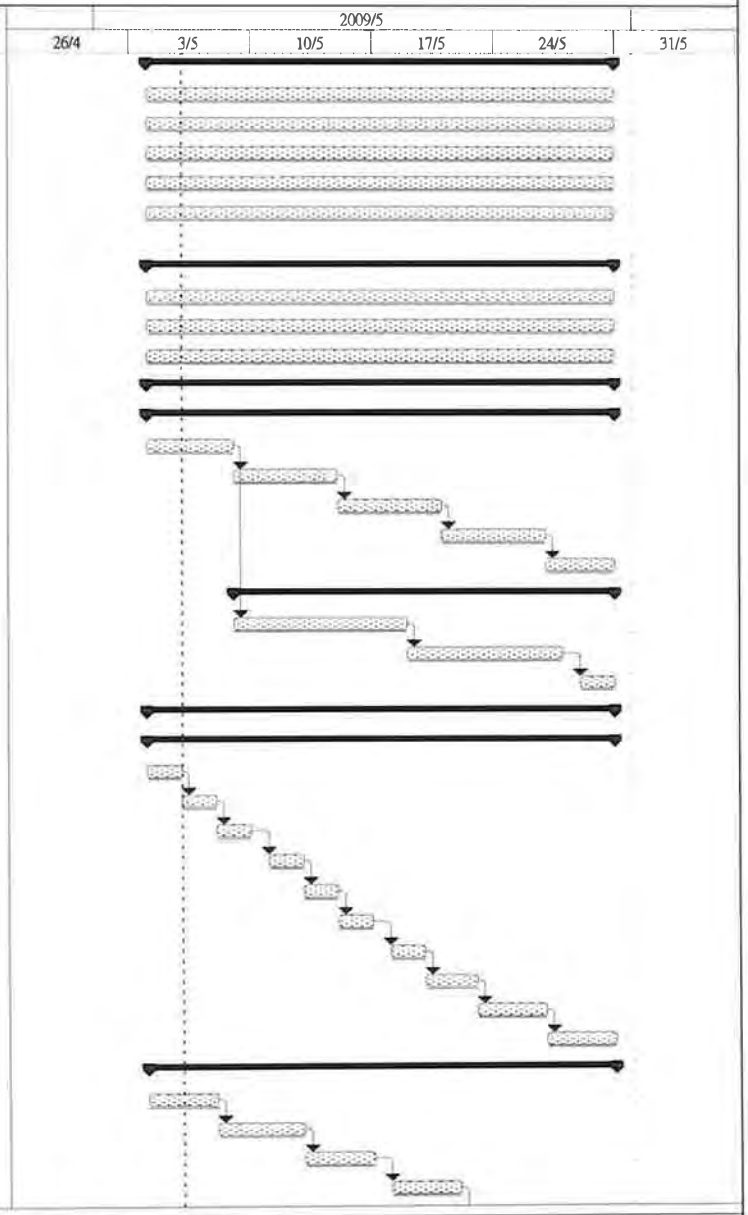
Split Milestone Project Summary External MileTasks

Contract No. : DC/2007/17

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

Monthly Rolling Programme - May 2009

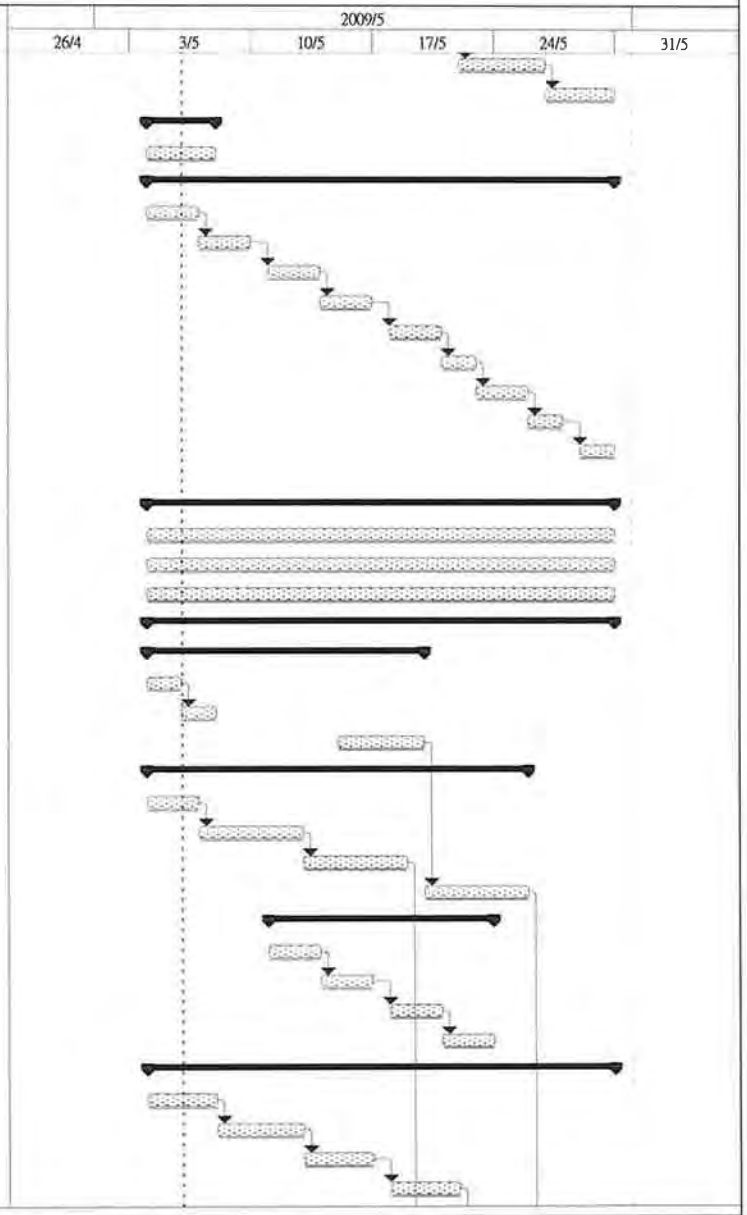
ID	Task Name	Duration	Start	Complete
1	**Section I (Channel KT12 - Cheung Po Tsuen)**	**23 days**	**2009/5/4**	**2009/5/30**
2	**Regular Environmental Impact Monitoring**	23 days	2009/5/4	2009/5/30
3	**Regular Tree Survey**	23 days	2009/5/4	2009/5/30
4	**Regular Structural Condition Survey**	23 days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



Task Progress Summary External Tasks Split

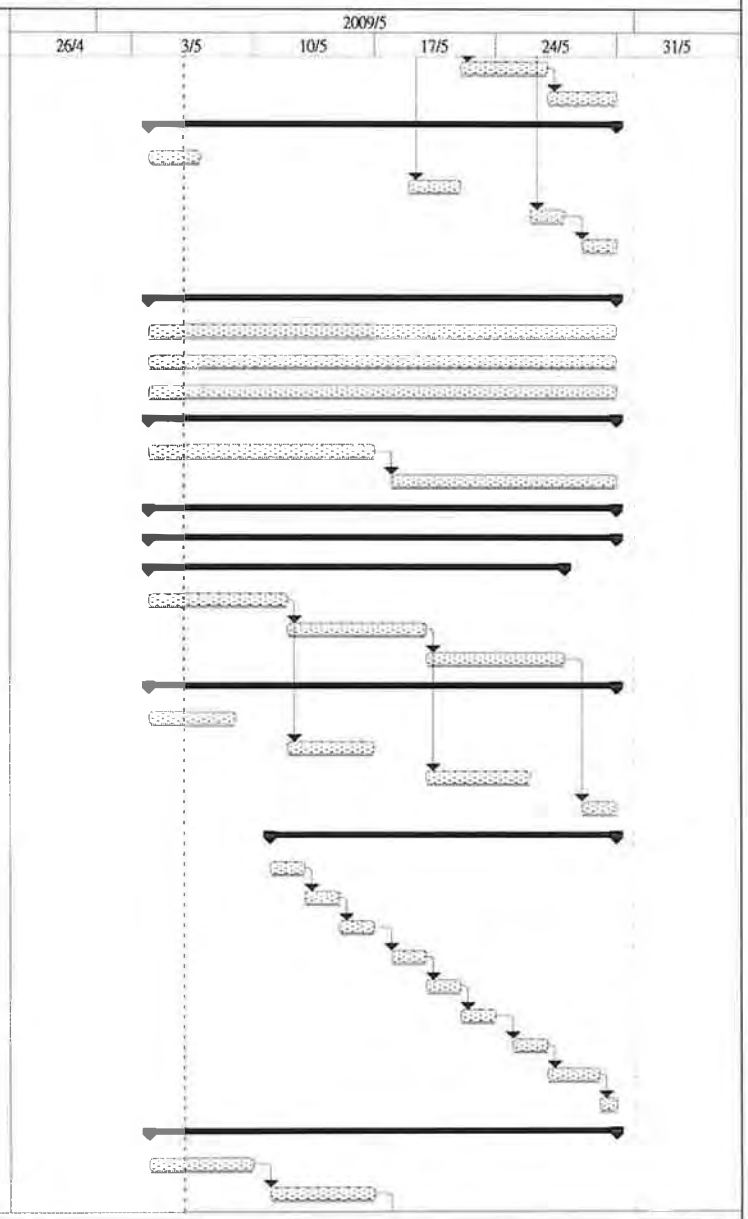
Split Milestone Project Summary External MileTask

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



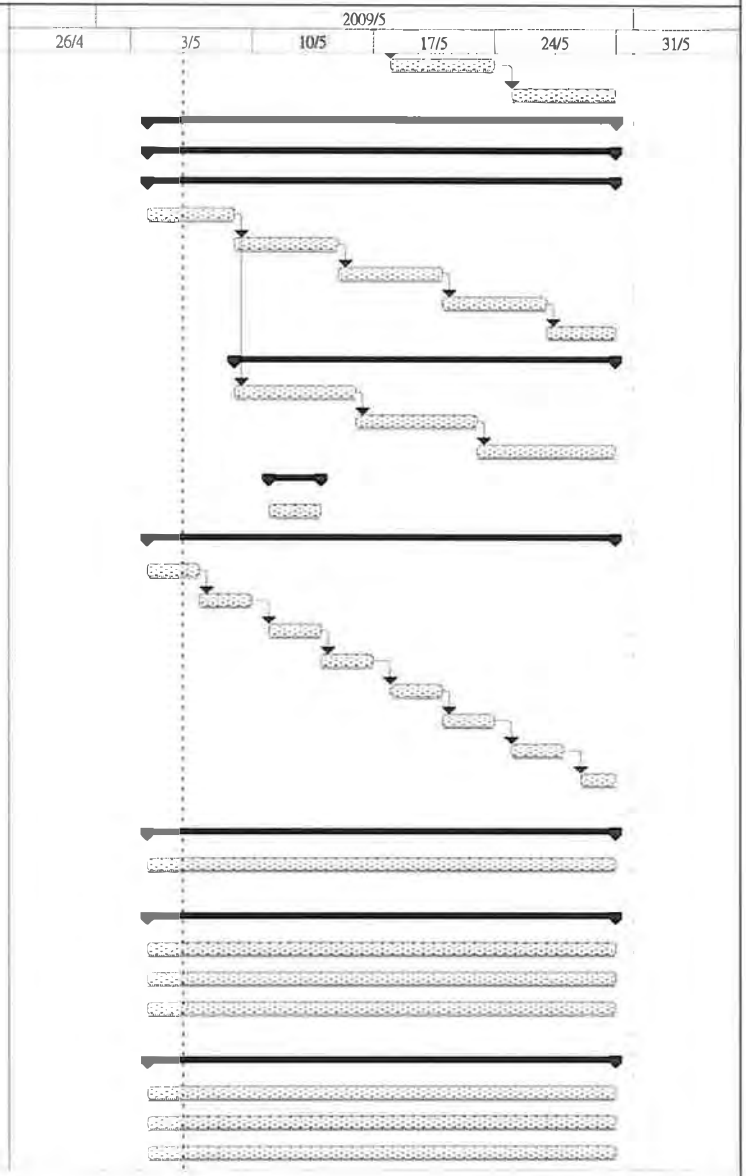
Task Progress Summary External Tasks Split
Split Milestone Project Summary External MileTask

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



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

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



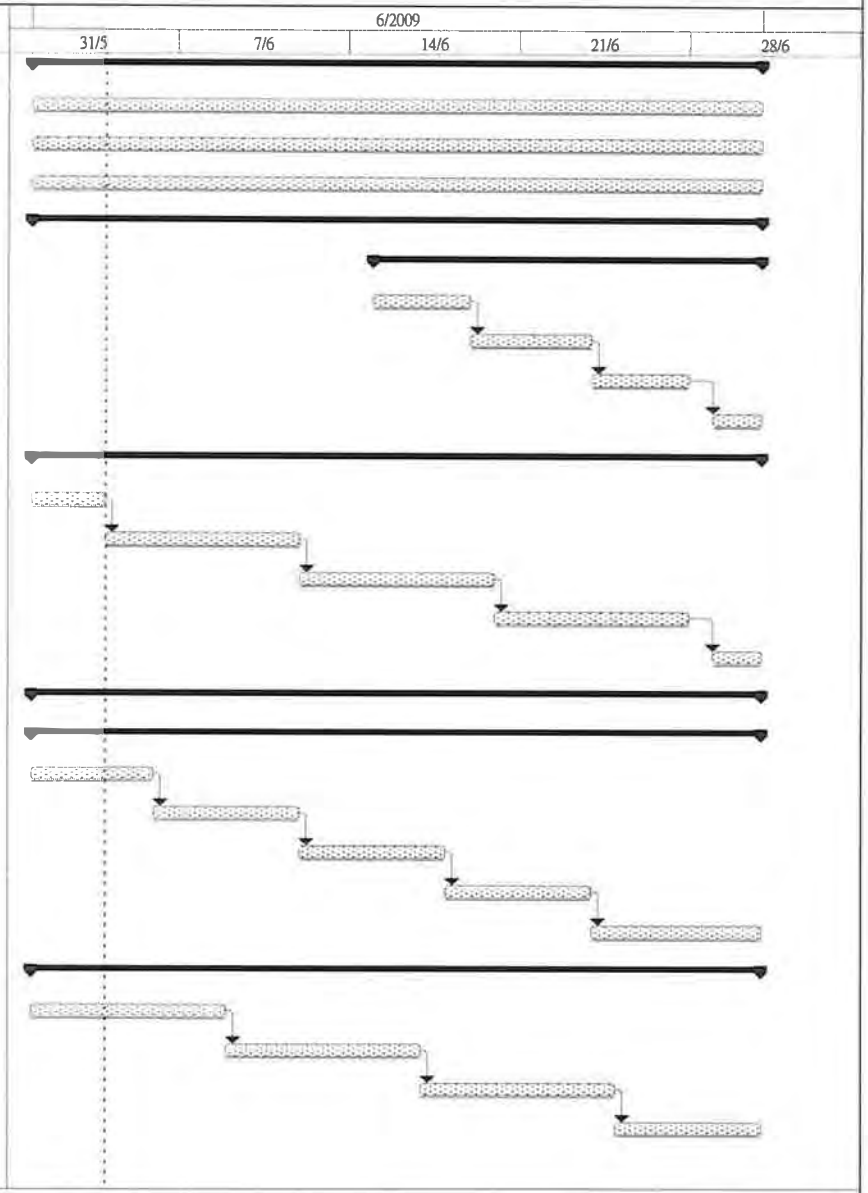
Task Progress Summary External Tasks Split
Split Milestone Project Summary External MileTask

Contract No. : DC/2007/17

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

Monthly Rolling Programme - June 2009

ID	Task Name	Duration	Start	Finish
1	**Section II (Channel KT13)**	**26 days**	**2009/6/1**	**2009/6/30**
2	**Regular Environmental Impact Monitoring**	26 days	2009/6/1	2009/6/30
3	**Regular Tree Survey & Protection**	26 days	2009/6/1	2009/6/30
4	**Regular Structural Condition Survey**	26 days	2009/6/1	2009/6/30
5	**Section A**	**26 days**	**2009/6/1**	**2009/6/30**
6	**Excavation to channel formation & laying of rock fill material (A CH0.00 - A CH402.00)**	**14 days**	**2009/6/15**	**2009/6/30**
7	Bay A8 (A CH51.00 - A CH59.00) - Transition	4 days	2009/6/15	2009/6/18
8	Bay A9 (A CH59.00 - A CH71.00) - TG2	4 days	2009/6/19	2009/6/23
9	Bay A10 (A CH71.00 - A CH83.00) - TG2	4 days	2009/6/24	2009/6/27
10	Bay A11 (A CH83.00 - A CH95.00) - TG2	2 days	2009/6/29	2009/6/30
11	**Construction of channel structure (RC2, Transition, and TG2)**	**26 days**	**2009/6/1**	**2009/6/30**
12	Bay A3 (A CH18.00 - A CH26.00) - RC2	3 days	2009/6/1	2009/6/3
13	Bay A4 (A CH26.00 - A CH34.00) - Transition	7 days	2009/6/4	2009/6/11
14	Bay A5 (A CH34.00 - A CH41.00) - Transition	7 days	2009/6/12	2009/6/19
15	Bay A6 (A CH41.00 - A CH44.00) & Pedestrian Crossing	7 days	2009/6/20	2009/6/27
16	Bay A7 (A CH44.00 - A CH51.00) - Transition	2 days	2009/6/29	2009/6/30
17	**Section B**	**26 days**	**2009/6/1**	**2009/6/30**
18	**Excavation for channel formation & laying of rock fill material (B CH0.00 - B CH316.00)**	**26 days**	**2009/6/1**	**2009/6/30**
19	Bay B4 (B CH24.00 - B CH34.00) - TG3	5 days	2009/6/1	2009/6/5
20	Bay B3 (B CH14.00 - B CH24.00) - TG3	5 days	2009/6/6	2009/6/11
21	Bay B15 (B CH144.00 - B CH147.00) - Transition & Pedestrian Crossing	5 days	2009/6/12	2009/6/17
22	Bay B14 (B CH137.00 - B CH144.00) - Transition	5 days	2009/6/18	2009/6/23
23	Bay B13 (B CH129.00 - B CH137.00) - Transition	6 days	2009/6/24	2009/6/30
24	**Construction of channel structure (Transition, TG3, TG4, TG5, and TG8)**	**26 days**	**2009/6/1**	**2009/6/30**
25	Bay B8 (B CH68.00 - B CH80.00) - TG3	7 days	2009/6/1	2009/6/8
26	Bay B7 (B CH57.00 - B CH68.00) - TG3	7 days	2009/6/9	2009/6/16
27	Bay B6 (B CH46.00 - B CH57.00) - TG3	7 days	2009/6/17	2009/6/24
28	Bay B5 (B CH34.00 - B CH46.00) - TG3	5 days	2009/6/25	2009/6/30
29				



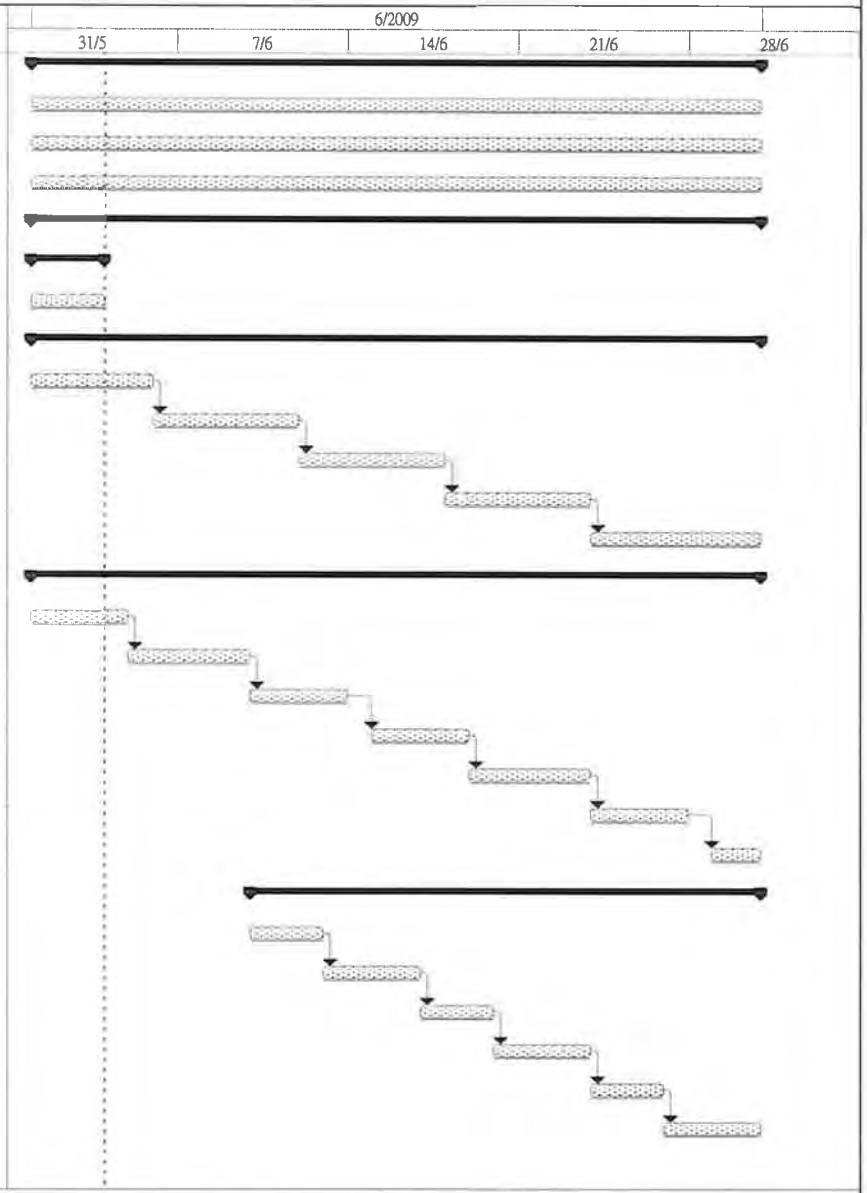
Task Progress Milestone Summary

Contract No. : DC/2007/17

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

Monthly Rolling Programme - June 2009

ID	Task Name	Duration	Start	Finish
30	**Section III (Channel KT14A - Tin Sam Tsuen)**	**26 days**	**2009/6/1**	**2009/6/30**
31	**Regular Environmental Impact Monitoring**	26 days	2009/6/1	2009/6/30
32	**Regular Tree Survey**	26 days	2009/6/1	2009/6/30
33	**Regular Structural Condition Survey**	26 days	2009/6/1	2009/6/30
34	**Construction of rectangular channel 2.5m(W) x 2.8m(H) Type RC1 (CH0.00 - CH150.00)**	**26 days**	**2009/6/1**	**2009/6/30**
35	**Backfilling along the sides of the channel structure**	**3 days**	**2009/6/1**	**2009/6/3**
36	Bay A14-1 (CH134.00 - CH145.00)	3 days	2009/6/1	2009/6/3
37	**Laying of gabion block inside the channel structure**	**26 days**	**2009/6/1**	**2009/6/30**
38	Bay A11 (CH101.00 - CH113.00)	5 days	2009/6/1	2009/6/5
39	Bay A12 (CH113.00 - CH119.00)	5 days	2009/6/6	2009/6/11
40	Bay A13 (CH119.00 - CH134.00)	5 days	2009/6/12	2009/6/17
41	Bay A14 (CH134.00 - CH145.00)	5 days	2009/6/18	2009/6/23
42	Bay A14-1 (CH134.00 - CH145.00)	6 days	2009/6/24	2009/6/30
43	**Construction of catchpit / manhole / drain pipe along the sides of channel**	**26 days**	**2009/6/1**	**2009/6/30**
44	Bay A1 (CH00.00 - CH12.00)	4 days	2009/6/1	2009/6/4
45	Bay A2 (CH12.00 - CH24.00)	4 days	2009/6/5	2009/6/9
46	Bay A3 (CH24.00 - CH36.00)	4 days	2009/6/10	2009/6/13
47	Bay A4 (CH36.00 - CH48.00)	4 days	2009/6/15	2009/6/18
48	Bay A5 (CH48.00 - CH53.00)	4 days	2009/6/19	2009/6/23
49	Bay A7 (CH57.00 - CH65.00)	4 days	2009/6/24	2009/6/27
50	Bay A8 (CH65.00 - CH77.00)	2 days	2009/6/29	2009/6/30
51	**Installation of Type 2 railing on top of rectangular channel (CH0.00 - CH150.00)**	**18 days**	**2009/6/10**	**2009/6/30**
52	Bay A10 (CH89.00 - CH101.00)	3 days	2009/6/10	2009/6/12
53	Bay A11 (CH101.00 - CH113.00)	3 days	2009/6/13	2009/6/16
54	Bay A12 (CH113.00 - CH119.00)	3 days	2009/6/17	2009/6/19
55	Bay A13 (CH119.00 - CH134.00)	3 days	2009/6/20	2009/6/23
56	Bay A14 (CH134.00 - CH145.00)	3 days	2009/6/24	2009/6/26
57	Bay A14-1 (CH134.00 - CH145.00)	3 days	2009/6/27	2009/6/30
58				



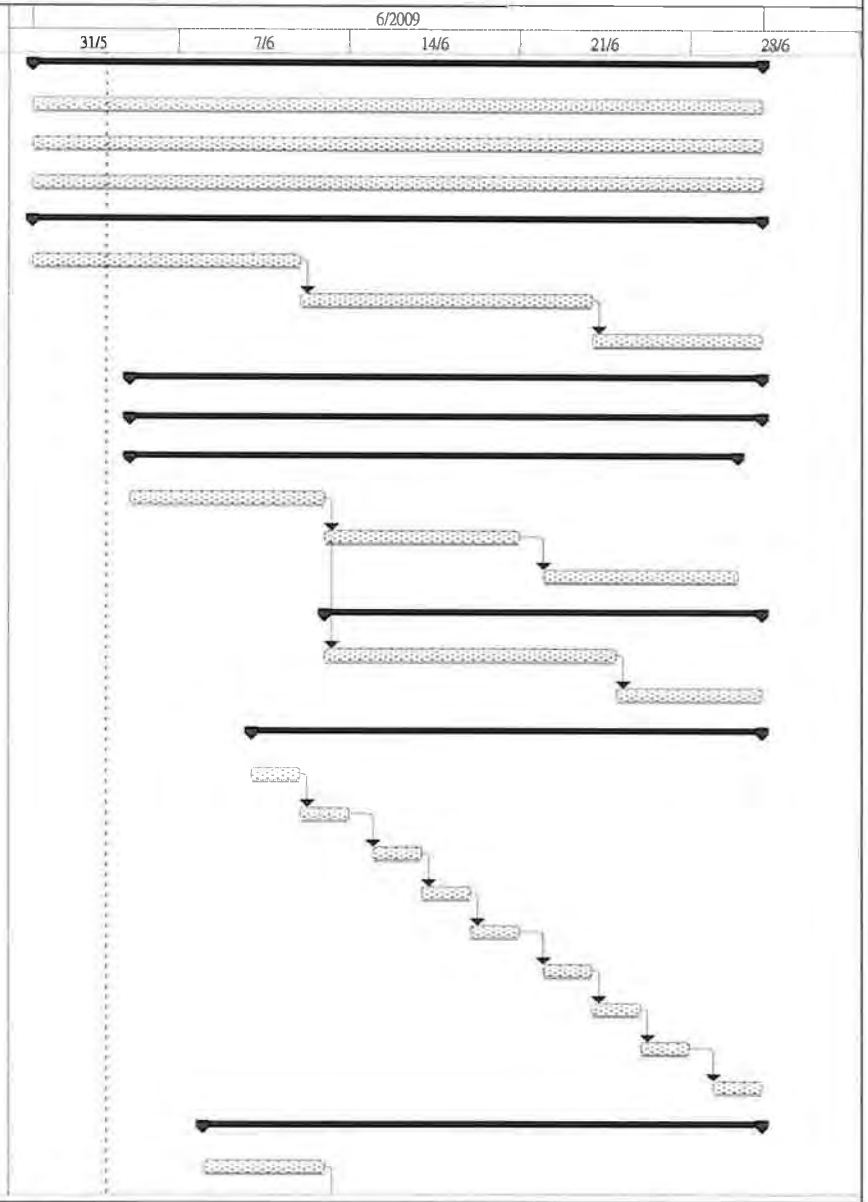
Task Progress Milestone Summary

Contract No. : DC/2007/17

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

Monthly Rolling Programme - June 2009

ID	Task Name	Duration	Start	Finish
59	**Section IV (Channel KT14B & 14C and Portion 8A & 8B)**	**26 days**	**2009/6/1**	**2009/6/30**
60	**Regular Environmental Impact Monitoring**	26 days	2009/6/1	2009/6/30
61	**Regular Tree Survey & Protection**	26 days	2009/6/1	2009/6/30
62	**Regular Structural Condition Survey**	26 days	2009/6/1	2009/6/30
63	**Portion 8B (CP1 to CP9) - Kam Sheung Road (1050 Dia. Pipe)**	**26 days**	**2009/6/1**	**2009/6/30**
64	Manhole MH2 - Manhole MH3	10 days	2009/6/1	2009/6/11
65	Manhole MH1 - Manhole MH2	10 days	2009/6/12	2009/6/23
66	Catchpit CP1 - Manhole MH1	6 days	2009/6/24	2009/6/30
67	**Channel 14B**	**22 days**	**2009/6/5**	**2009/6/30**
68	**Construction of rectangular channel Type RC1 (CH0.00 - CH335.00)**	**22 days**	**2009/6/5**	**2009/6/30**
69	**Excavation to channel formation & Laying rock fill material (CH0.00 - CH335.00)**	**21 days**	**2009/6/5**	**2009/6/29**
70	Bay 31A (CH309.00 - CH317.00)	7 days	2009/6/5	2009/6/12
71	Bay 30 (CH299.00 - CH303.00) & Pedestrian Crossing PC14B-1	7 days	2009/6/13	2009/6/20
72	Bay 31 (CH303.00 - CH309.00)	7 days	2009/6/22	2009/6/29
73	**Construction of channel structure (CH0.00 - CH335.00)**	**15 days**	**2009/6/13**	**2009/6/30**
74	Bay 31A (CH309.00 - CH317.00)	10 days	2009/6/13	2009/6/24
75	Bay 30 (CH299.00 - CH303.00) & Pedestrian Crossing PC14B-1	5 days	2009/6/25	2009/6/30
76	**Laying of gabion block inside the channel structure**	**18 days**	**2009/6/10**	**2009/6/30**
77	Bay 18 (CH183.00 - CH195.00)	2 days	2009/6/10	2009/6/11
78	Bay 19 (CH195.00 - CH207.00)	2 days	2009/6/12	2009/6/13
79	Bay 20 (CH207.00 - CH216.00)	2 days	2009/6/15	2009/6/16
80	Bay 22 (CH220.00 - CH225.00)	2 days	2009/6/17	2009/6/18
81	Bay 23 (CH225.00 - CH237.00)	2 days	2009/6/19	2009/6/20
82	Bay 24 (CH237.00 - CH249.00)	2 days	2009/6/22	2009/6/23
83	Bay 25 (CH249.00 - CH260.00)	2 days	2009/6/24	2009/6/25
84	Bay 26 (CH260.00 - CH272.00)	2 days	2009/6/26	2009/6/27
85	Bay 27 (CH272.00 - CH285.00)	2 days	2009/6/29	2009/6/30
86	**Construction of catchpit / manhole / drain pipe along the sides of the channel**	**20 days**	**2009/6/8**	**2009/6/30**
87	Bay 1 (CH00.00 - CH05.00)	5 days	2009/6/8	2009/6/12



Task Progress Milestone Summary

Appendix D

Mitigation Measure Implementation Schedule

Appendix A
Mitigation Measures Implementation Schedule

Ecological Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
4.9.2	To avoid potential impacts to the egretry and the associated habitats, the proposed layout and gabion structures shown in Figures 2.2A, 2.2B and 2.4 of the EIA shall be adopted. The bypass culvert design shall ensure that continuous flow of the existing unmodified stream is maintained. Reprovide the stream section affected by the bypass culvert with gabion banks and natural substrates as stream bed materials.	Minimize loss of egretry, stream and conservation area, and the associated ecological habitats	Design Stage Refer to Figures 2.2A, 2.2B and 2.4 for locations	Detailed Design Engineer	✓	✓		Environmental Impact Assessment Ordinance (EIAO)
4.9.7	Chain link fence to be provided along the site boundary near the CA zone and Ho Pui Egretry (Figure 4.13). Prohibit the disturbance of vegetation outside the site boundary. Signage to be provided at conspicuous location to warn workers from entering and disturbing the sensitive areas.	Minimize the disturbance and access to the CA zone and Ho Pui Egretry during construction	Construction Stage at locations shown in Figure 4.13 of the EIA before commencement of bypass culvert construction	Construction Contractor		✓		EIAO
4.9.8	Compensatory planting of about 148 heavy standard size trees (in 2:1 ratio) for the approximately 74 trees to be felled.	Compensatory planting of trees that inevitably need to be felled	Construction Stage at locations shown in Figures 4.13, LP-001 and LP-002 of the EIA before commencement of operation stage	Construction Contractor		✓		EIAO
4.9.9 & Table 4.35	Planting an area (855 m²) of appropriate tree and bamboo species as shown in Figure 4.13: *Bambusa eutuldoides* 40% of total species *Cinnamomum camphora* 15% of total species *Celtis tetranda* 15% of total species *Ficus virens* 15% of total species *Ficus microcarpa* 15% of total species	Replace lost vegetation and conservation area by enhancing a stream side area to become suitable habitats for egrets	Construction Stage at locations shown in Figure 4.13 of the EIA before commencement of operation stage	Construction Contractor		✓		EIAO

Ecological Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
4.9.2 (ii)	Potentially adverse impacts arising from the maintenance of the channelized sections will be minimized by restricting routine channel maintenance to annual silt removal by hand or light machinery during the dry season (October to March). The management of woody / emergent vegetation will be limited to manual cutting, to be carried out only when unchecked growth of such vegetation is very likely to impede channel flow.	Minimize impacts arising from the maintenance of KT13	KT13 during Operation Stage	DSD (or DSD's maintenance contractor)			✓	EIAO

Noise Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
5.5.22	Level 1 Mitigation Measure Plant to be used in the construction phase are listed in Appendix F1 of the EIA. Quiet and silenced plant should be used (Appendix F2). No nighttime works will be carried out.	Prevent noise impact at sensitive receivers	To be implemented at the works sites during the Construction Phase.	Construction Contractor		✓		EIAO
5.5.23 - 5.5.24	Level 2 Mitigation Measure Temporary noise barrier of minimum height 3m should be erected along the site boundary of the construction work which is closest to the NSRs. These barrier shall be gap free apart from the necessary entrances/exits. The overall length for which noise barriers are required is shown in Figure 5.3. These barriers shall be constructed in such a way that no construction works and PME are visible from the low rise noise sensitive receivers they protect. A minimum surface density of 10 kg/m² is required. Where the affected sensitive receivers are very close to the construction works so that they cannot be adequately screened by the proposed temporary noise barrier as described on Figure 5.3, the Contractor is required to fully or partially modify the design of the temporary noise barriers, such as adding cantilevered portion or the use of mobile barrier, to screen the construction works away from the line of sight of the affected sensitive receivers.	Prevent noise impact at sensitive receivers	To be implemented at the works sites during the Construction Phase (see Figure 5.3).	Construction Contractor		✓		EIAO

Air Quality Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
6.5.12	Dust Mitigation Measures The Contractor shall prevent dust nuisance arising from the construction activities. The Contractor is required to follow all the requirements for dust control stipulated in the Air Pollution Control (Construction Dust) Regulation. Dust suppression measures should be installed as part of proper construction practice, and these should be incorporated in the Contract Specification and implemented to minimize dust nuisance to within acceptable levels. The following are examples of the dust suppression measures: (i) The Contractor shall frequently clean and water the site to minimize fugitive dust emissions. (ii) Effective water sprays shall be used during the delivery and handling of aggregate, and other similar materials, when dust is likely to be created and to dampen all stored materials during dry and windy weather. (iii) Watering of exposed surfaces shall be exercised as often as possible depending on the circumstances. (iv) Areas within the site where there is a regular movement of vehicles must be regularly watered as often as necessary for effective suppression of dust or as often as directed by the Engineer. (v) Where dusty material are being discharged to vehicle from a conveying system at a fixed transfer point, a three-sided roofed enclosure with a flexible curtain across the entry shall be provided. Exhaust fans shall be provided for this enclosure and vented to a suitable fabric filter system.	Prevent dust / odour nuisance	To be implemented at the works sites during the Construction Phase.	Construction Contractor		✓		Air Pollution Control Ordinance [Air Pollution Control (Construction Dust) Regulation]

Air Quality Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
6.5.12 (cont'd)	(vi) The Contractor shall restrict all motorised vehicles within the site, excluding those on public roads, to a maximum speed of 15 km per hour and confine haulage and delivery vehicles to designated roadways inside the site. (vii) Wheel washing facilities shall be installed and used by all vehicles leaving the site. No earth, mud, debris, dust and the like shall be deposited on public roads. Water in the wheel cleaning facility shall be changed at frequent intervals and sediments shall be removed regularly. The Contractor shall submit details of proposals for the wheel cleaning facility. Such wheel washing facilities shall be usable prior to any earthworks excavating activity on the site. The Contractor shall also provide a hard-surfaced road between any washing facility and the public road. (viii) All vehicle exhausts should be directly vertically upwards or directed away from the ground. (ix) Any materials dropped on paved roads will need to be cleaned up immediately to prevent dust nuisance. *Odour Mitigation Measures* (x) Any odourous excavated material should be placed away from sensitive receivers. The material shall be removed within 1 day. (xi) Any odourous material stockpiled should be of the shortest duration. Also, all stockpiled materials must be stored in covered skips. Any leachate from these storage skips shall be collected in covered tanks or buckets and removed from site with toilet waste by licensed collectors for discharging to government sewer.							

Air Quality Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
6.5.4	No on-site concrete batching plant shall be erected.	Prevent dust nuisance	To be implemented at the works sites during the construction phase			✓		Air Pollution Control Construction Dust Regulation
6.5.13	During the Operation Phase, excavated sediment deposits should be regularly removed from the channel to maintain adequate water flow as well as to remove odourous materials. Potentially odourous materials should be stockpiled for the minimum time possible and away from ASRs. The material should be stored in covered impermeable skips and removed from site within 1 day.	Prevent odor nuisance during operation phase	To be implemented along KT13 during the Operation Phase.	DSD's Maintenance Contractor			✓	

Water Quality Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
7.5.5 - 7.5.7	Temporary earth bunds and sand barriers should be used to direct stormwater run-off to temporary settlement area. The settlement area should be within the channel itself. A cofferdam should be formed to keep the working area dry. The channel will be dug out to a depth of around 1 – 2m for a length of approximately 12m, to form a sedimentation area. The volume will be approximately 50m^3 (with a channel width of 3.5m). Sediment flowing downstream should settle in this settlement pond, while run-off from the surface should be channel through a local site drainage system into the settlement area. The settlement area should be maintained and the deposited materials should be removed regularly, at the onset of and after each rainstorm to ensure proper functioning at all times. No sediment removal shall be allowed in rainy weather. Open stockpiles susceptible to erosion should be covered with tarpaulin or similar fabric, especially during the wet season (Apr-Sep) or when heavy rainstorm is predicted.	Prevent additional pollution load being added to stream due to KT13 works (site formation)	To be implemented at the works sites during the Construction Phase.	Construction Contractor		✓		Water Pollution Control Ordinance ProPECC Note (PN 1/94)
7.5.8 - 7.5.10	The Contractor should provide temporary drainage diversion during construction to ensure continuous water flow to the unmodified portion of the stream. The use of containment structure such as temporary earth bunds, sand bags, sheetpile barriers or similar techniques is recommended to facilitate a dry or at least confined excavation within watercourses. Excavated sediment from streams and channel is likely to be wet and contaminated. The material should be stored in covered impermeable skips and disposed on the same day, or within 1 day, to avoid both odour and inadvertent release of contaminants to nearby water bodies.	Prevent additional pollution load being added to stream due to KT13 works (stream diversion and dredging)	To be implemented at the works sites during the Construction Phase.	Construction Contractor		✓		Water Pollution Control Ordinance ProPECC Note (PN 1/94)

Water Quality Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
7.5.11 - 7.5.12	Runoff should be carefully channelled to prevent concrete-contaminated water from entering watercourses. Adjustment of pH can be achieved by adding a suitable neutralising reagent to wastewater prior to discharge. Re-use of the supernatant from the sediment pits for washing out of concrete lorries should be practised. Any exceedance of acceptable range of pH levels in the nearby water bodies caused by inadvertent release of site runoff containing concrete should be monitored and rectified under the EM&A programme for this Project.	Prevent additional pollution load being added to stream due to KT13 works (concreting work)	To be implemented at the works sites during the Construction Phase.	Construction Contractor		✓		Water Pollution Control Ordinance ProPECC Note (PN 1/94)
7.5.13	Any Contractor generating waste oil or other chemicals as a result of his activities should register as a chemical waste producer and provide a safe storage area for chemicals on site. The storage site should be located away from existing water courses. Hard standing compounds should drain via an oil interceptor. To prevent spillage of fuels or other chemicals to water courses, all fuel tanks and storage areas should be sited on sealed areas, within a bund of a capacity equal to 110% of the storage capacity of the largest tank. Disposal of the waste oil should be done by a licensed collector. Oil interceptors should be regularly inspected and cleaned to avoid wash-out of oil during storm conditions. A bypass should be provided to avoid overload of the interceptor's capacity. Good housekeeping practices should be implemented to minimise careless spillage and to keep the storage and the work space in a tidy and clean condition. Appropriate training including safety codes and relevant manuals should be given to the personnel who regularly handle the chemicals on site.	Prevent additional pollution load being added to stream due to KT13 works (site workshop or depot)	To be implemented at the works sites during the Construction Phase.	Construction Contractor		✓		Water Pollution Control Ordinance ProPECC Note (PN 1/94)

Water Quality Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
7.5.14 - 7.5.15	Sewage arising from the additional population of workers on site should be collected in a suitable storage facility, such as portable chemical toilets. An adequate number of portable toilets should be provided for the construction workforce. The portable toilets should be maintained in a state that will not deter the workers from using them. The collected wastewater from sewage facilities and also from eating areas or washing facilities must be disposed of properly, in accordance with the WPCO requirements. Wastewater collected should be discharged into foul sewers and collected by licensed collectors. Either chemical toilets or other types of sewage treatment facilities without local discharge of wastewater shall be used to handle the foul water effluent arising from the project sites.	Prevent additional pollution load being added to stream due to KT13 works (wastewater from workers)	To be implemented at the works sites during the Construction Phase.	Construction Contractor		✓		Water Pollution Control Ordinance ProPECC Note (PN 1/94)

Waste Management

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
8.2.5	All construction wastes shall be sorted on site into inert and non-inert components. Non-inert materials (wood, glass and plastics) shall be recycled or reused and disposed to NENT Landfill as a last resort. Inert materials (soil, rubble, sand, rock, brick and concrete) shall be separated and reused on site prior to final disposal at the public filling facility at Tuen Mun Area 38.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		WBTC No. 12/2000 ETWB TCW No. 33/2002 19/2005 31/2004
8.2.7	Any excavated material from the stream shall be removed within 1 day of excavation, taking measures to reduce odour and potential runoff.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		WBTC No. 12/2000 ETWB TCW No. 33/2002 19/2005 31/2004
8.2.13 – 8.2.18 & 8.3.3	The excavated sediments shall be managed in accordance with ETWB TCW No. 34/2002 and WBTC No. 12/2000. The excavated sediment shall be disposed to marine disposal sites allocated by the Marine Fill Committee (MFC) – Pit IVa / Pit IVb of the East Sha Chau facility as capping material for Type 1 disposal and Pit IVc of the East Sha Chau facility for Type 2 disposal. The general allocation conditions as stipulated by the MFC shall be followed.	To properly manage the excavated sediment	Proposed works area during the Construction Phase	Construction Contractor		✓		WBTC No. 12/2000 ETWB TCW No. 34/2002 Dumping at Sea Ordinance
8.2.20	Dry concrete waste shall be sorted out from the other wastes and recycled at Tuen Mun Area 38 to form aggregates for road sub-base.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		WBTC No. 12/2000 ETWB TCW No. 33/2002 19/2005 31/2004
8.2.22 – 8.2.24	Hoarding, shutters, form works and false works made of reusable materials such as steel or plastic / concrete panels shall be used as a preferred alternative to non-reusable materials such as wood and timber, with reference to WBTC No. 19/2001 - Metallic Site Hoarding and Signboards.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		WBTC No. 19/2001

Waste Management

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
8.2.25 – 8.2.29	Where the construction processes produce chemical waste, the contractor must register with EPD as a Chemical Waste Producer. Storage, handling, transport and disposal of chemical waste shall be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published by EPD. All chemical waste shall be collected by a licensed collector for disposal at a licensed chemical waste treatment facility.	Waste reduction, re-use, recycling and proper disposal of chemical waste	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		Waste Disposal Ordinance Waste Disposal (Chemical Waste) (General Regulation)
8.2.30	Settled sediments from wheel wash facilities should be dried and disposed of in the same way as inert excavated material.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		WBTC No. 12/2000 ETWB TCW No. 33/2002 19/2005 31/2004
8.2.32	A temporary refuse collection station shall be set up by the Contractor. Municipal waste shall be collected regularly and delivered to the North East New Territories (NENT) Landfill.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		Waste Disposal Ordinance Public Health and Municipal Services Ordinance
8.4.2	Appropriate waste management measures should be incorporated as part of the Environmental Management Plan (EMP) to be prepared and implemented by the Contractor.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		ETWB TCW No. 19/2005
8.4.3	Training of construction staff should be undertaken by the Contractor in order to increase awareness of waste management issues.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		ETWB TCW No. 19/2005
8.3.4 & 8.4.9	The Contractor shall refer and strictly follow the requirements stipulated in the ETWB TCW No. 31/2004 – Trip Ticket System for Disposal of Construction and Demolition Materials.	Waste reduction, re-use, recycling and proper disposal	Throughout the construction sites during the Construction Phase	Construction Contractor		✓		ETWB TCW No. 31/2004

Cultural Heritage

EIA Ref.	Mitigation Measures	Objectives of Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
Table 9.3	A condition survey will be required before and during the construction phase to ensure the structure of the identified historic grave (KT13-02-02) remains intact. Measures will have to be taken to ensure the structural stability of the identified historic grave (KT13-02-02). Details will be presented in the condition survey.	To ensure the structure of the identified historic grave (KT13-02-02) remains intact during construction phase	Historic grave (KT13-02-02) / Before and during construction of the bypass culvert	Construction Contractor / Qualified archaeologist to conduct condition survey		✓		EIAO

Landscape/Visual Impact Mitigation

EIA Ref.	Mitigation Measures	Objectives for Proposed Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent(s)	Implementation Stage			Relevant Legislation & Guidelines
					Design	Construction	Operation	
Table 10.2	CONSTRUCTION PHASE CM1 Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. CM2 Temporary access to site should be planned with care and located to minimize disturbance to existing riparian vegetation. CM3 Existing trees to be retained on site should be carefully protected during construction. CM4 Trees unavoidably affected by the works should be transplanted where practical. CM5 Compensatory tree planting should be provided to compensate for felled trees. CM6 Erection of decorative screen hoarding compatible with the surrounding rural setting.	Improves visual quality of project area and proposed works	To be implemented along KT13 works area during the Construction Phase.	Construction Contractor		✓		Works Bureau Technical Circular No. 14/2002
Table 10.3, Figures LP-001 & LP-002	OPERATION PHASE OM1 Buffer planting of trees and shrubs to screen off and blend in the channel with the adjacent settings OM2 Compensation planting of tree and bamboo species as recommended in Ecological Assessment compensates and reinstates riparian woodland disturbed on top of hydroseeding. OM3 Gabion embankment and substratum for natural colonization of vegetation OM4 Chromatic treatment of vehicular and pedestrian crossing to match adjacent setting. OM5 Aesthetic/ Quality design to re-provision of sitting out area of Ma On Kong. OM6 Approximate 50m stretch of grasscrete lined maintenance access road within CA zone.	Improved visual quality of proposed project	To be implemented along KT13 as shown in Figures LP-001 & LP-002 during Construction Phase / To be completed before commencement of Operation	Construction Contractor		✓		WBTC No. 14/2002 & ETWBTC No. 2/2004

Landscape/Visual Impact Mitigation

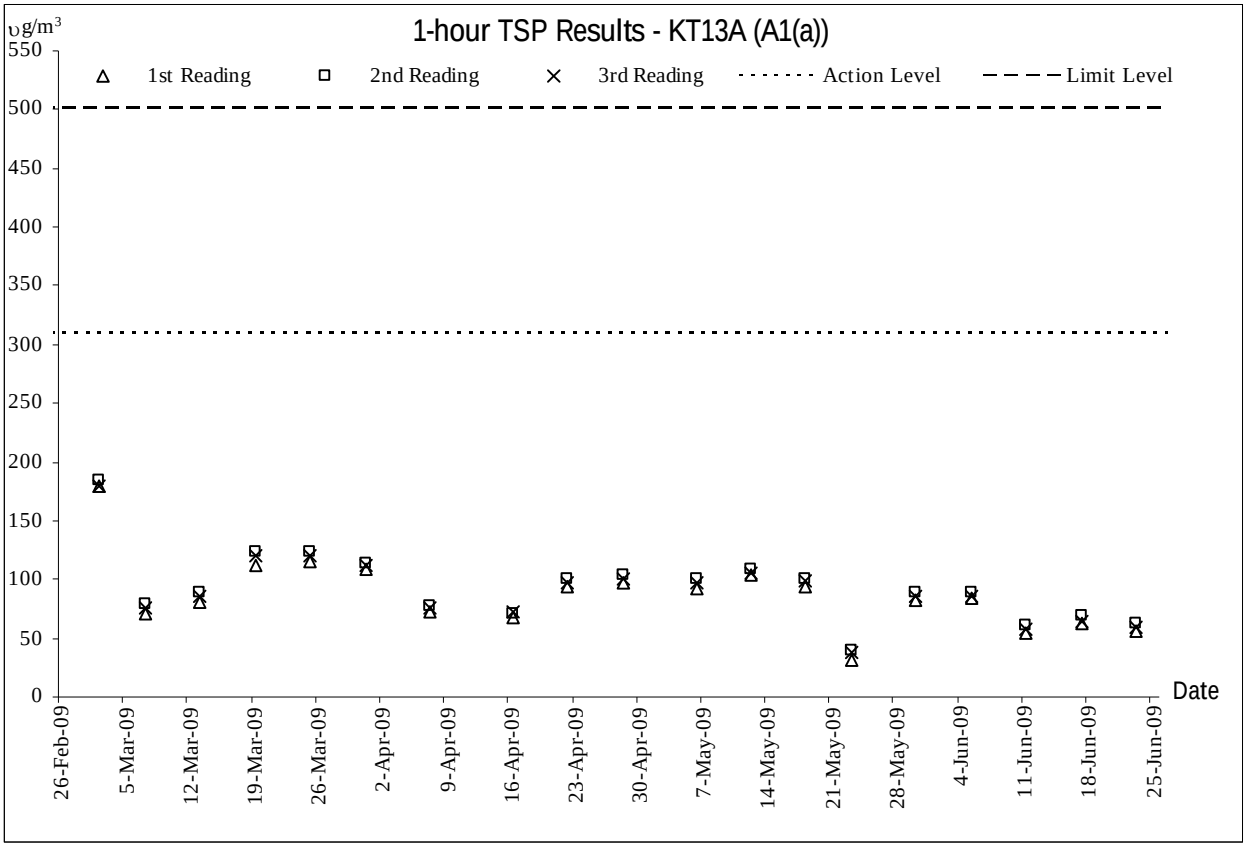
<table>
<tr><th rowspan="2">EIA Ref.</th><th rowspan="2">Mitigation Measures</th><th rowspan="2">Objectives for Proposed Measures</th><th rowspan="2">Location/Duration of Measures/Timing of Completion of Measures</th><th rowspan="2">Implementation Agent(s)</th><th colspan="3">Implementation Stage</th><th rowspan="2">Relevant Legislation & Guidelines</th></tr>
<tr><th>Design</th><th>Construction</th><th>Operation</th></tr>
<tr><td>10.8.18 Figures LP-001, LP-002 & 4.13</td><td>Compensatory planting of trees and bamboos with requirements as below.<table><tr><td>Size of compensatory tree planting</td><td>At least heavy standard size</td></tr><tr><td>Quantity of compensatory tree planting</td><td>2 times of the tree to be felled (approximately 148 nos. of tree to be compensated)</td></tr><tr><td>Proposed species</td><td>Bambusa eutuldoides*
Celtis tetranda
Cinnamomum camphora
Ficus virens
Ficus microcarpa</td></tr><tr><td>Requirements*</td><td>To ensure the right species of bamboo is planted, an experience botanist shall be acquired by the Contractor to source the correct bamboo species. In addition, the bamboos should have a minimum stem diameter of 8-10 cm and clump size of 5 shoots per plant.</td></tr></table></td><td>To address both landscape / visual and ecological mitigation needs</td><td>To be implemented along KT13 as shown in Figures LP-001 and LP-002 (with reference to Figure 4.13) during Construction Phase / To be completed before commencement of Operation</td><td>Construction Contractor</td><td></td><td>✓</td><td></td><td>WBTC No. 14/2002 & ETWBTC No. 2/2004</td></tr>
</table>

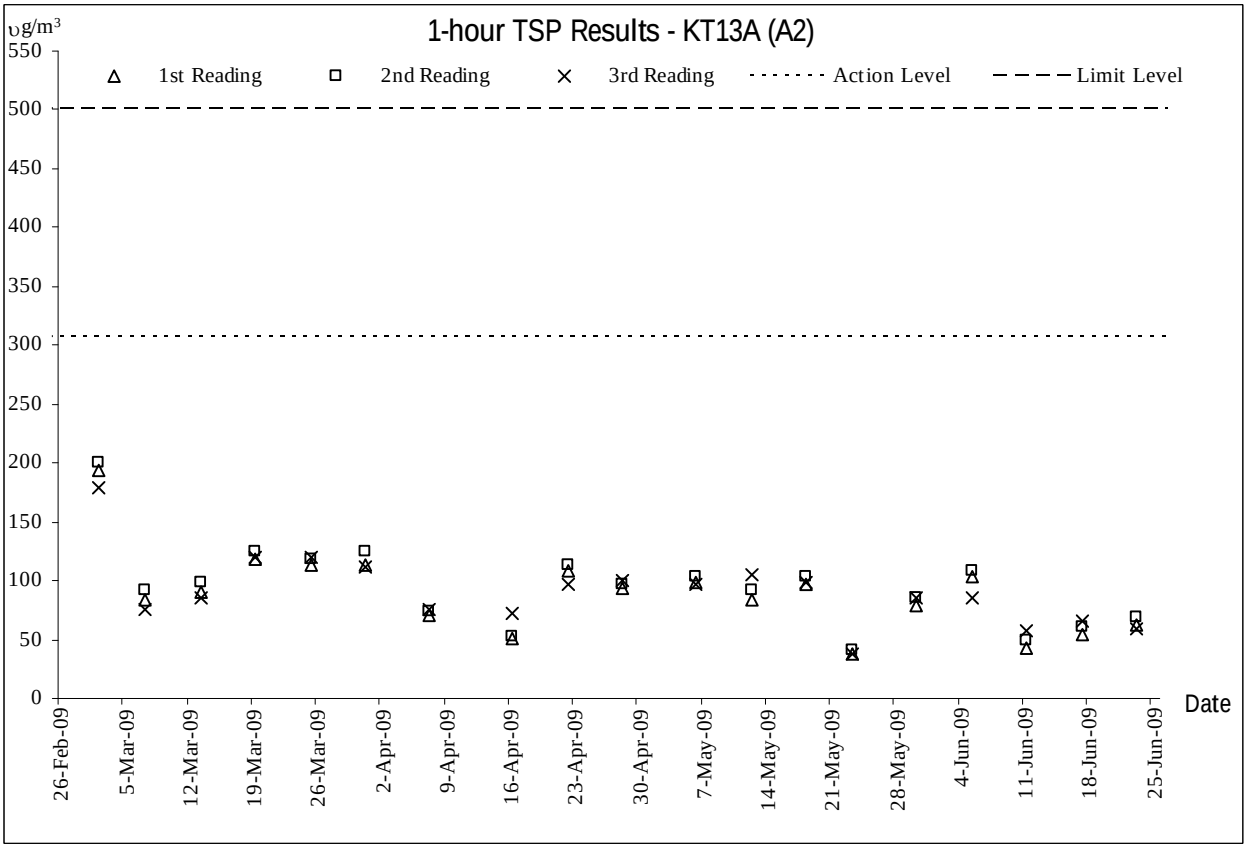
Appendix E

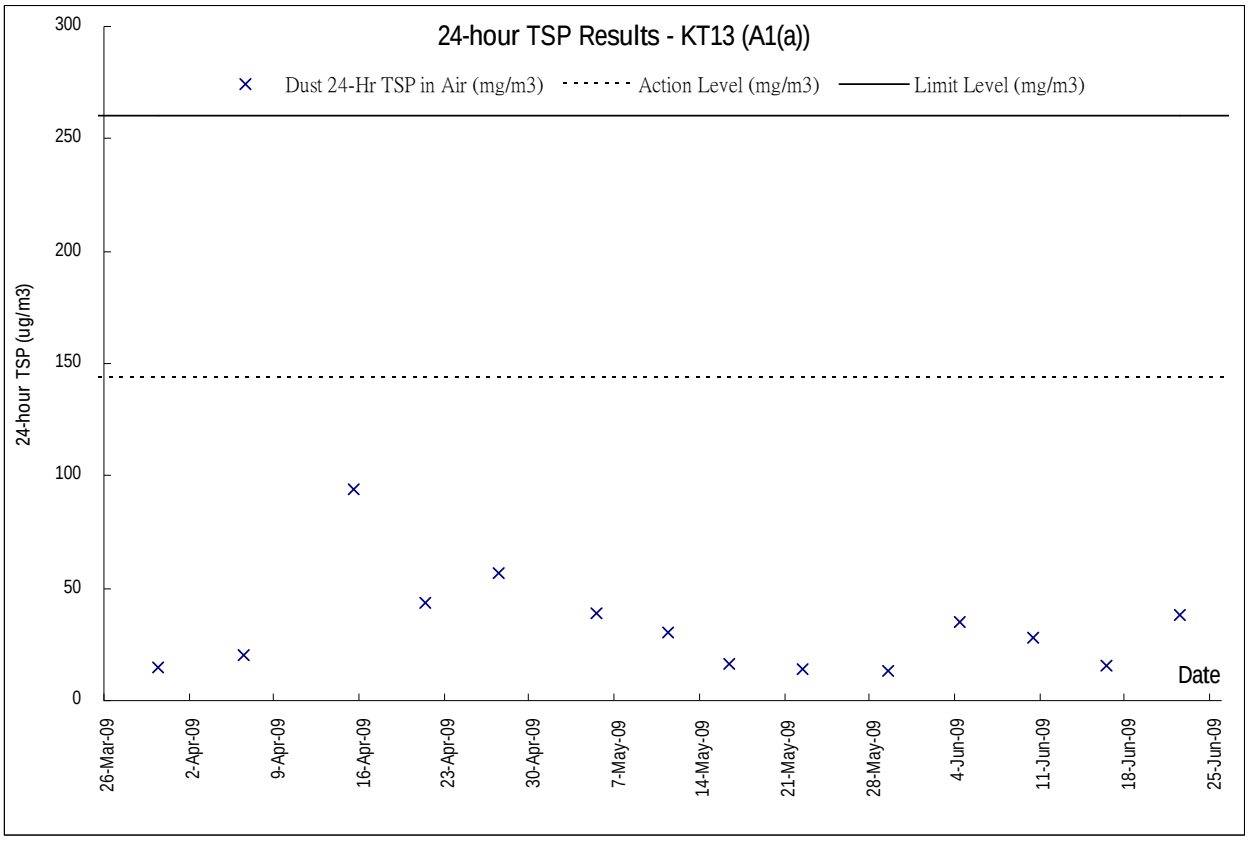
Graphic Plots of

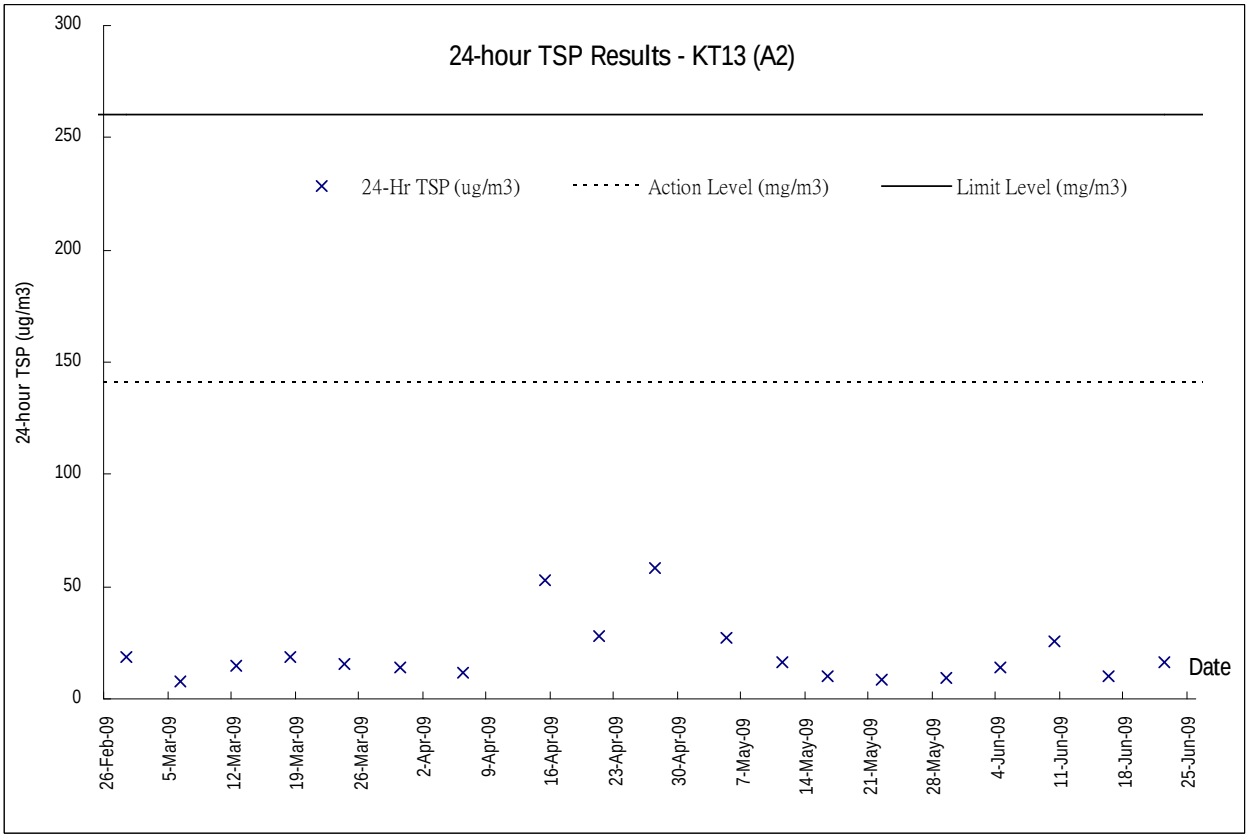
(a) Air Quality
(b) Construction Noise
(c) Water Quality

(a) Air Quality

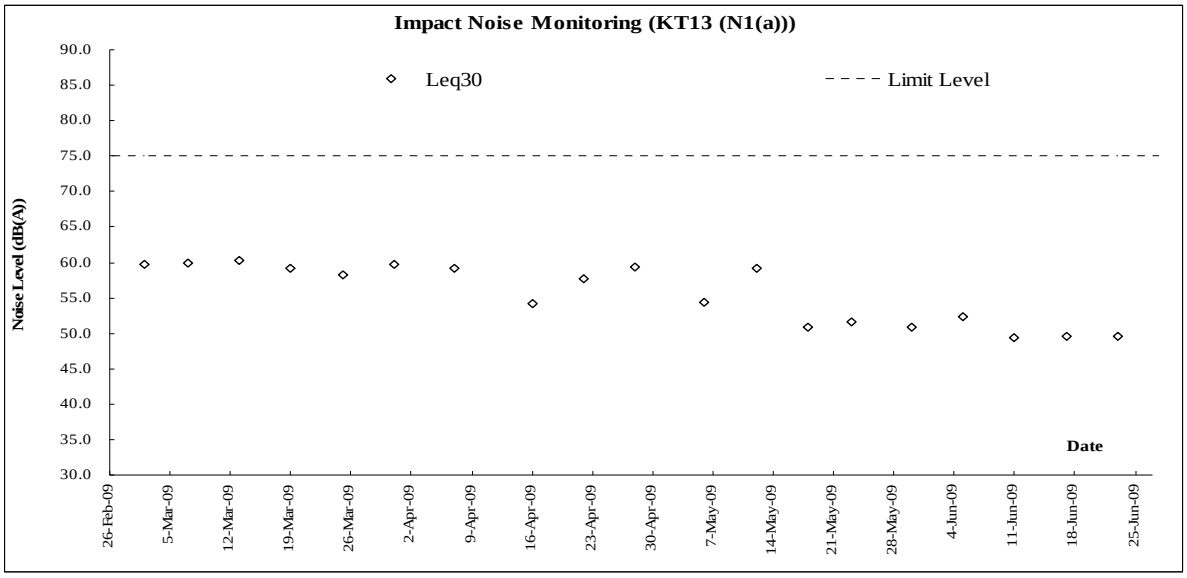


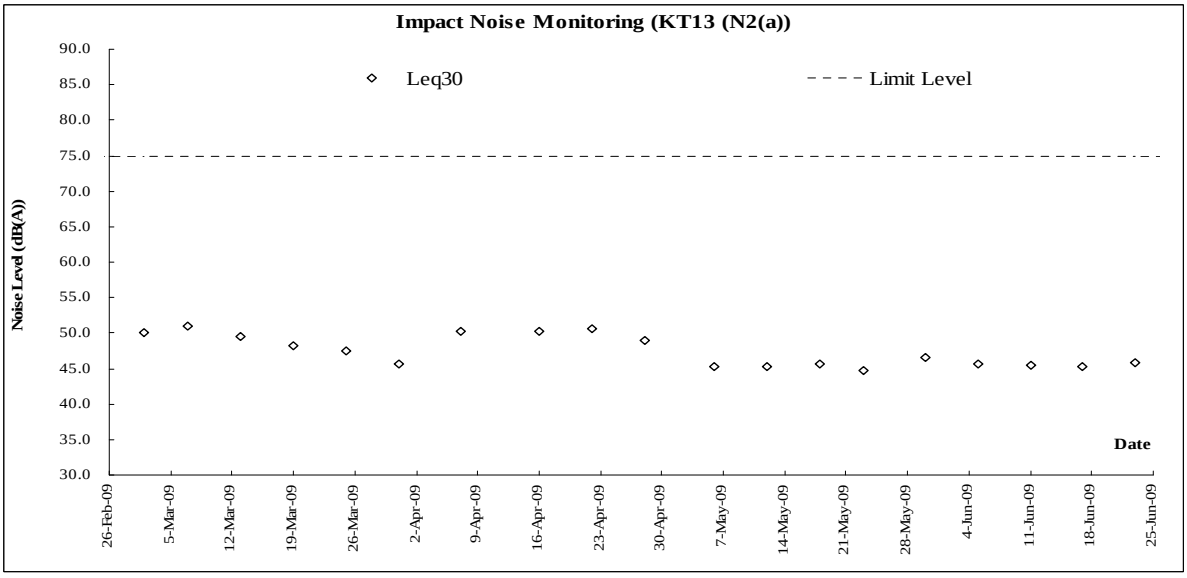


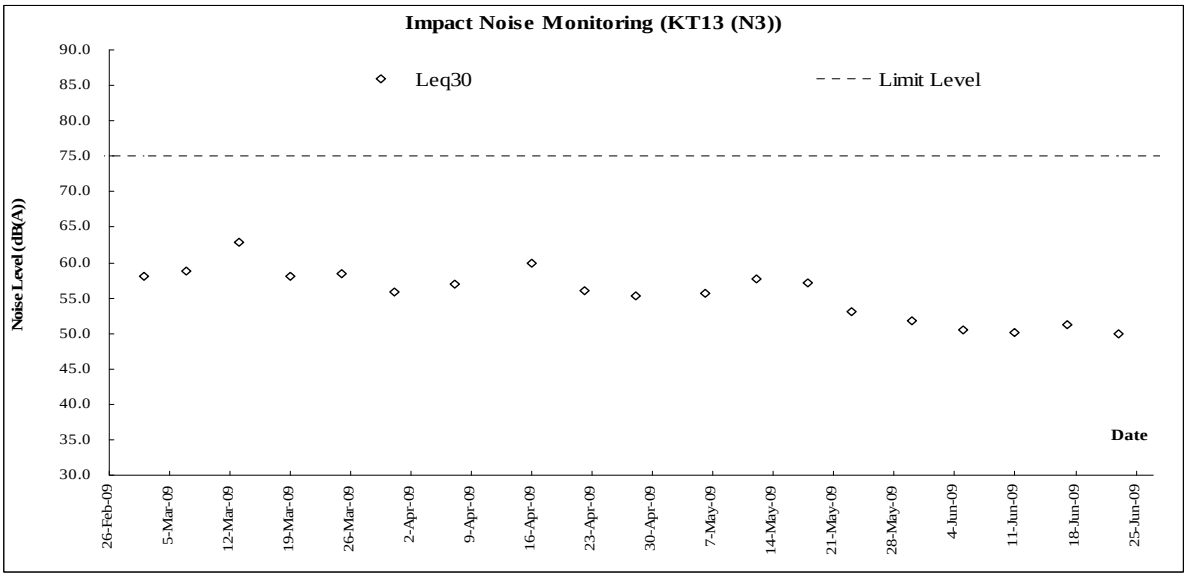

24-hour TSP Results - KT13 (A1(a))
Dust 24-Hr TSP in Air (mg/m3)
Action Level (mg/m3)
Limit Level (mg/m3)
24-hour TSP (ug/m3)
300
250
200
150
100
50
0
Date
26-Mar-09
2-Apr-09
9-Apr-09
16-Apr-09
23-Apr-09
30-Apr-09
7-May-09
14-May-09
21-May-09
28-May-09
4-Jun-09
11-Jun-09
18-Jun-09
25-Jun-09


24-hour TSP Results - KT13 (A2)
24-Hr TSP (ug/m3)
Action Level (mg/m3)
Limit Level (mg/m3)
24-hour TSP (ug/m3)
300
250
200
150
100
50
0
Date
26-Feb-09
5-Mar-09
12-Mar-09
19-Mar-09
26-Mar-09
2-Apr-09
9-Apr-09
16-Apr-09
23-Apr-09
30-Apr-09
7-May-09
14-May-09
21-May-09
28-May-09
4-Jun-09
11-Jun-09
18-Jun-09
25-Jun-09

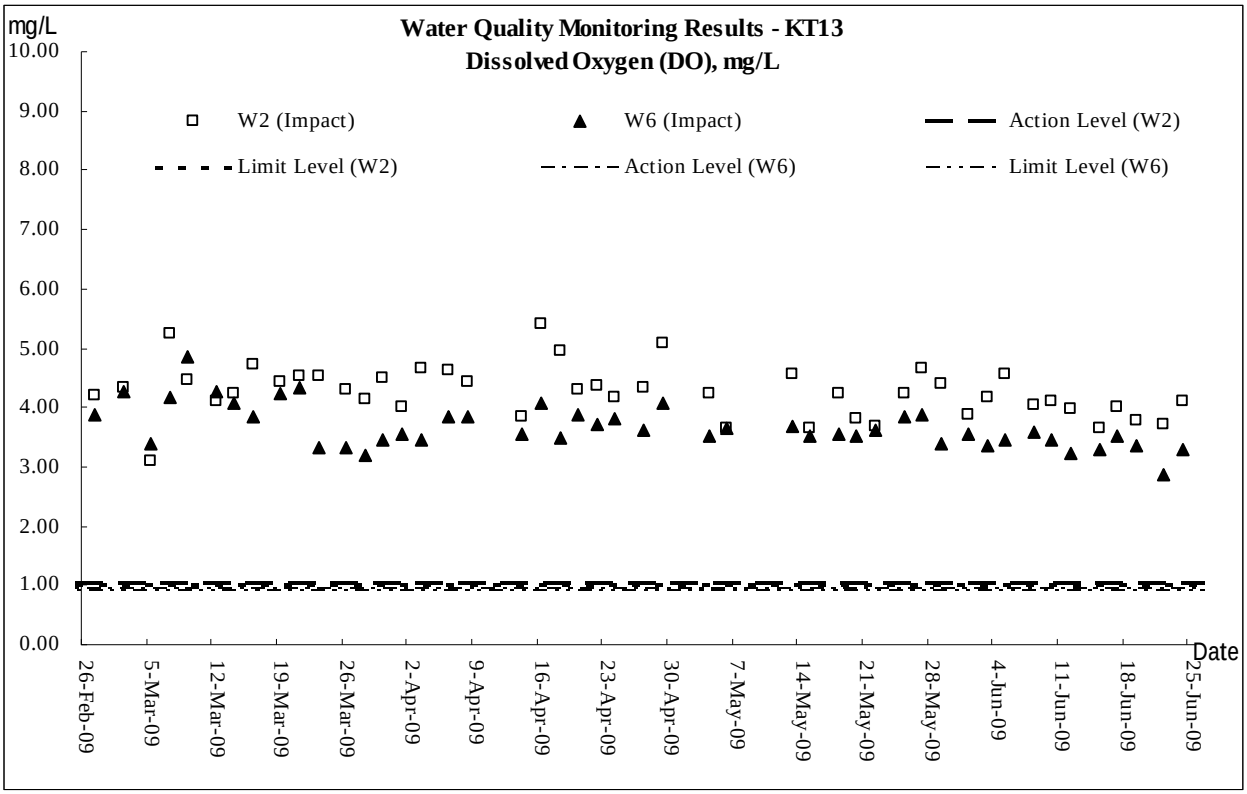
(b) Construction Noise

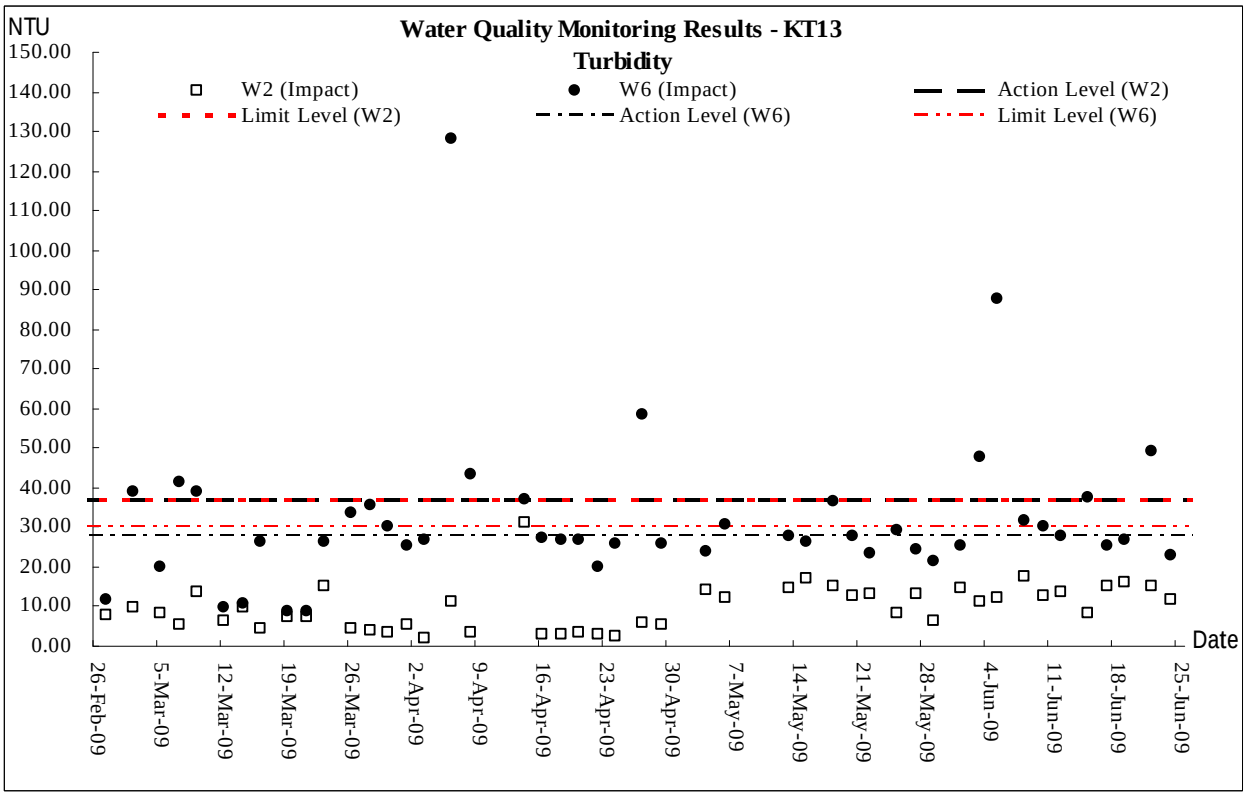


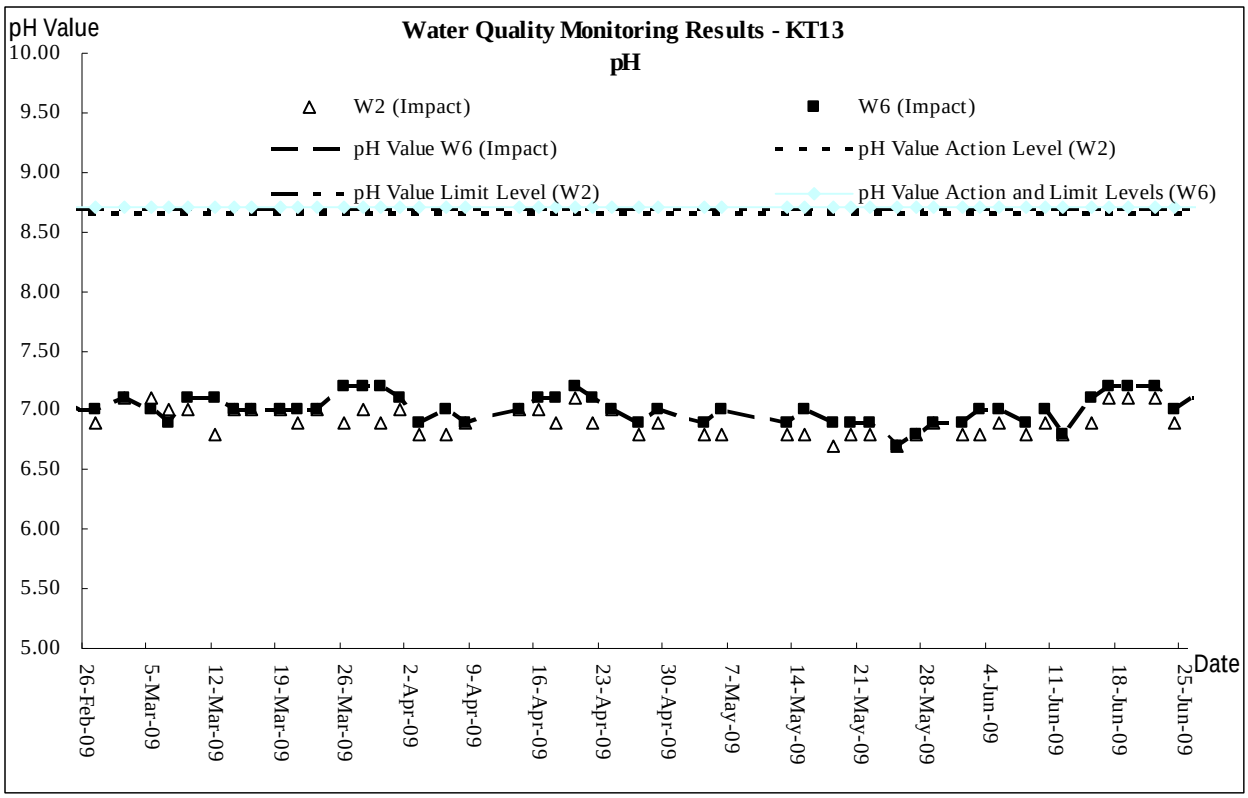


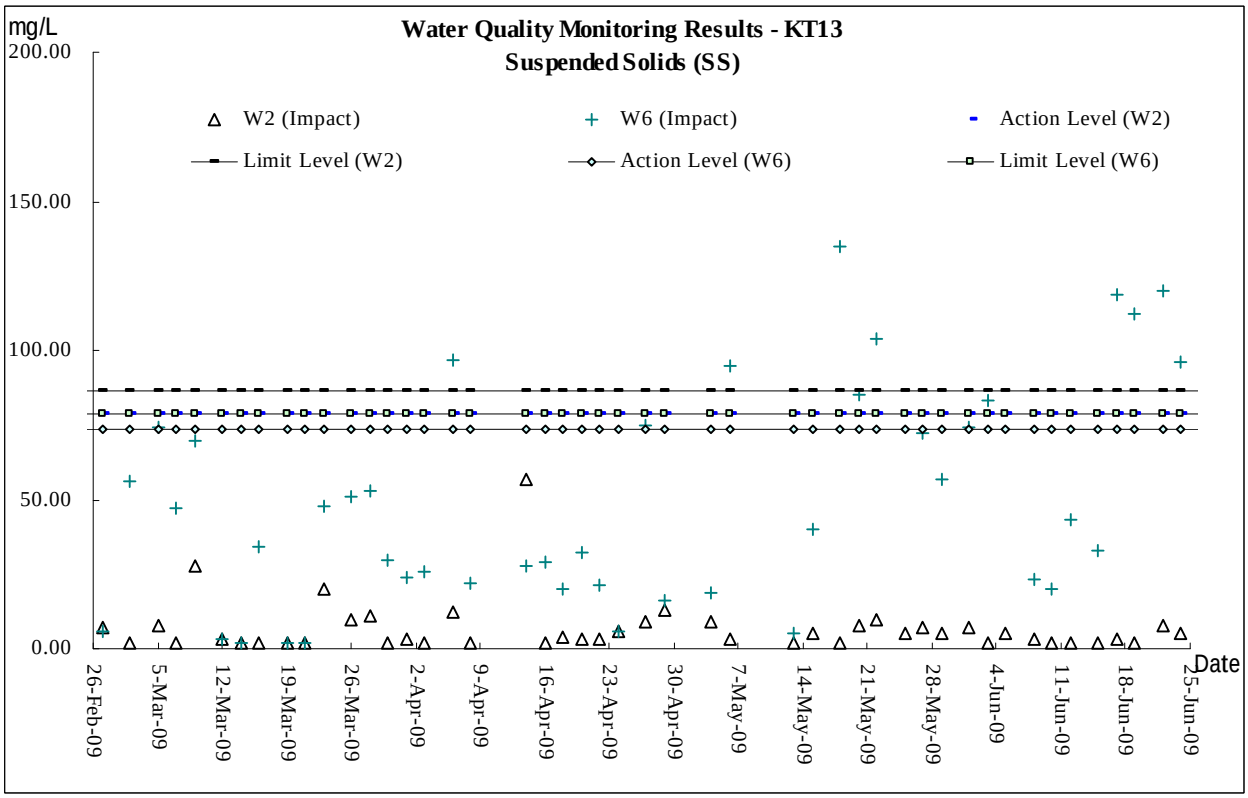


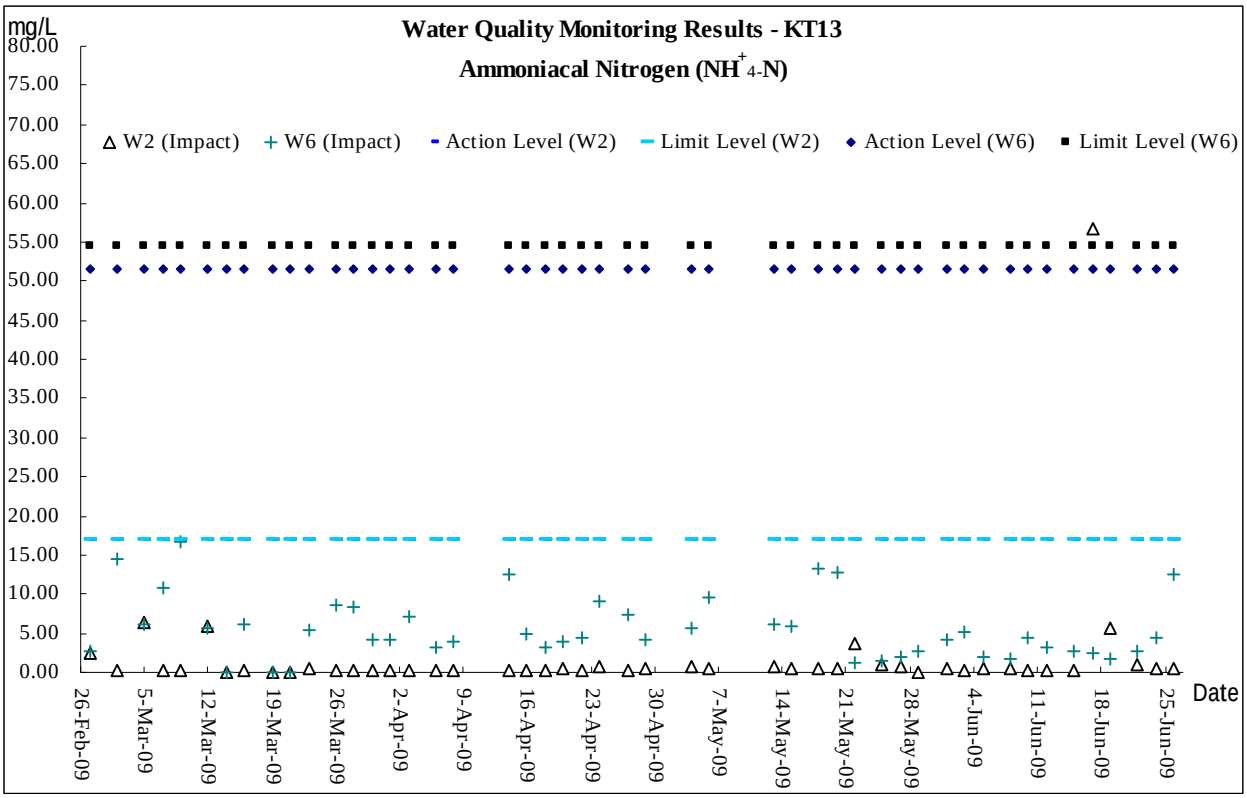
(c) Water Quality

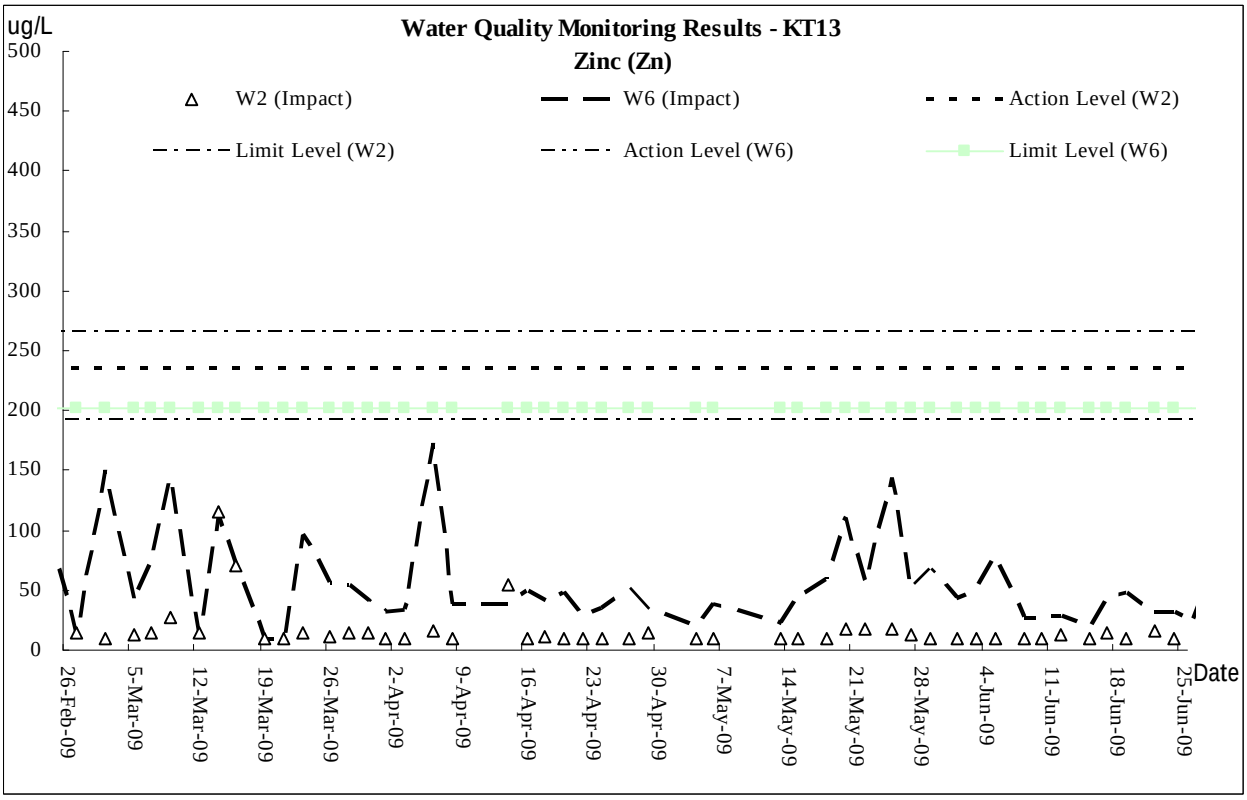





Water Quality Monitoring Results - KT13
pH
pH Value
W2 (Impact)
W6 (Impact)
pH Value W6 (Impact)
pH Value Action Level (W2)
pH Value Limit Level (W2)
pH Value Action and Limit Levels (W6)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
Date
26-Feb-09
5-Mar-09
12-Mar-09
19-Mar-09
26-Mar-09
2-Apr-09
9-Apr-09
16-Apr-09
23-Apr-09
30-Apr-09
7-May-09
14-May-09
21-May-09
28-May-09
4-Jun-09
11-Jun-09
18-Jun-09
25-Jun-09


Water Quality Monitoring Results - KT13
Suspended Solids (SS)
mg/L
W2 (Impact)
W6 (Impact)
Action Level (W2)
Limit Level (W2)
Action Level (W6)
Limit Level (W6)
200.00
150.00
100.00
50.00
0.00
Date
26-Feb-09
5-Mar-09
12-Mar-09
19-Mar-09
26-Mar-09
2-Apr-09
9-Apr-09
16-Apr-09
23-Apr-09
30-Apr-09
7-May-09
14-May-09
21-May-09
28-May-09
4-Jun-09
11-Jun-09
18-Jun-09
25-Jun-09


Water Quality Monitoring Results - KT13
Ammoniacal Nitrogen (NH4+-N)
mg/L
W2 (Impact)
W6 (Impact)
Action Level (W2)
Limit Level (W2)
Action Level (W6)
Limit Level (W6)
80.00
75.00
70.00
65.00
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
26-Feb-09
5-Mar-09
12-Mar-09
19-Mar-09
26-Mar-09
2-Apr-09
9-Apr-09
16-Apr-09
23-Apr-09
30-Apr-09
7-May-09
14-May-09
21-May-09
28-May-09
4-Jun-09
11-Jun-09
18-Jun-09
25-Jun-09
Date


Water Quality Monitoring Results - KT13
Zinc (Zn)
ug/L
W2 (Impact)
W6 (Impact)
Action Level (W2)
Limit Level (W2)
Action Level (W6)
Limit Level (W6)
500
450
400
350
300
250
200
150
100
50
0
26-Feb-09
5-Mar-09
12-Mar-09
19-Mar-09
26-Mar-09
2-Apr-09
9-Apr-09
16-Apr-09
23-Apr-09
30-Apr-09
7-May-09
14-May-09
21-May-09
28-May-09
4-Jun-09
11-Jun-09
18-Jun-09
25-Jun-09
Date

Appendix F

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table

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

Monthly Summary Waste Flow Table for Jun 2009										
Year	Actual Quantities of Inert C & D Materials Generated Monthly					Estimated Annual Quantities of C & D Wastes Generated Monthly				
	Total Quantitiy Generated	Broken Concrete (see note 4)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ Cardboard packaging	Plastics (see note 3)	Chemical Waste	Others, e.g. General refuse
	(in '000M^3)	(in '000M^3)	(in '000M^3)	(in '000M^3)	(in '000M^3)	(in '000KG)	(in '000KG)	(in '000KG)	(in '000KG)	(in '000M^3)
Jan	6.716	0.008	6.708	0	0	0	0	0	0	0
Feb	8.001	0.009	7.632	0.360	0	0	0	0	0	0
Mar	5.792	0.014	5.778	0	0	0	0	0	0	0
Apr	6.376	0.004	6.864	-0.492	0	0	0	0	0	0
May	7.632	0.006	7.674	-0.048	0	0	0	0	0	0
Jun	6.00	0.008	5.676	-0.498	0.816	0	0	0	0	0
Sub-Total	40.52	0.049	40.332	-0.678	0.816	0	0	0	0	0
Jul										
Aug										
Sep										
Oct										
Nov										
Dec										
Total	40.519	0.049	40.332	-0.678	0.816	0.000	0.000	0.000	0.000	0.000

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