Contract No. : DC/2007/06
River Improvement Works in Upper Lam Tsuen, She Shan River and Upper Tai Po River

ENVIRONMENTAL MONITORING AND AUDIT

MONTHLY EM&A REPORT of

UPPER TAI PO RIVER

for June 2009

Environmental Pioneers & Solutions Limited
8/F, Chaiwan Industrial Centre Building
20 Lee Chung Street, Chaiwan, Hong Kong
Tel: 28890569 Fax: 2856 2010

The Contents of this report have been

Certified by:

Signature: _____ Date: 14-07-09

Miss. Patricia Chung
(Environmental Team Leader)

Signature: _____ Date: 16-7-09

Dr. Mark Shea
(Ecologist)

and Verified by:

Signature: _____ Date: 20 - 7 - 2009

Mr. Marcus IP
(Independent Environment Checker)

Report submission and revision:
First submission on 08th July 2009

TABLE OF CONTENTS

Executive summary

This is the tenth monthly Environmental Monitoring and Audit (EM&A) Report for the river improvement works in Upper Tai Po River under Drainage Services Department Contract No. DC/2007/06 entitled "River Improvement Works in Upper Lam Tsuen River, She Shan River and Tai Po River". This report concludes the impact monitoring for the activities undertaken during the period from 1st June 2009 to 30th June 2009. The major construction activity carried out by the contractor was backfilling works for the boulder traps.

The Environmental Team (ET) is responsible for the EM&A works required in the EM&A manual. Site inspections were carried out on weekly basis to investigate and audit the equipment and work methodologies with respect to pollution control and environmental mitigation. The weekly inspections records and photos taken were kept.

Ecological Impact Monitoring prepared by the Ecologist Dr. Mark Shea was not scheduled in this month hence no related information was included in this reporting month. The next ecological impact monitoring was scheduled to be conducted in 21st and 22nd July 2009. The summary of ecological site inspection findings and implementation status of environmental protection and mitigation for ecology, prepared by the Ecologist Dr. Mark Shea, are provided in table 6.2 and Appendix G respectively.

Environmental Team had carried out construction noise monitoring on weekly basis and no exceedance was found. Noise monitoring records for the reporting month and the data is presented in section 4. The location plan and the graphical plots presenting the data are provided in Appendix D.

Piling works were not scheduled for this month. Therefore, no vibration monitoring was conducted during the reporting month.

There was no non-compliance recorded for this reporting month.

There was no breach of action and limit levels for this month.

There was no reporting change for this month.

In accordance with the contractual requirements, no excavation works in river is allowed to be carried out during the present wet season. Site works proposed to be carried out in the upcoming will be mainly installation works of noise barriers and/or hoardings. With reference to the environmental permit and EM&A manual, mitigation measures should be implemented if necessary.

ET has reminded the contractor to provide environmental pollution control measures wherever necessary and to keep a good environmental management at site practice.

1.0 Introduction

This is the tenth monthly Environmental Monitoring and Audit (EM&A) Report for the river improvement works in Upper Tai Po River under Drainage Services Department Contract No. DC/2007/06 entitled "River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River". The site layout plan is shown in Figure 2.1. The Environmental Team, Environmental Pioneers & Solutions Limited appointed by Chiu Hing Construction and Transportation Company Limited, prepares the report. The report is to be submitted to the Contractor, the Engineer and the IEC.

This report presents the results of the environmental monitoring of the project activities for Upper Tai Po River conducted during the month of June 2009. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the Environmental Permit (EP-223/2005/A) (EP), EM&A Manual and the Contractor's Environmental Management Plan (EMP).

2.0 Environmental status

2.1 Project area

The location of the project site – Upper Tai Po River starting from Ta Tit Yan of Yai Mo Shan, the Upper Tai Po River flows from southeast to northeast alongside Wilson Trail, turning northward before joining the Lam Tsuen River and then runs towards Tai Po Market. To the east of the river, there are active and abandoned cultivated lands. While the village settlements are mainly located on the west and northeast side of the river bank, where the San Uk Ka and Lai Chi Shan establishment also lie. The Project site is indicated in **Figure 2.1.**

2.2 Construction programme

Approximately 0.6km of Upper Tai Po River will be improved to enhance the hydraulic performance of the river. The improvement works comprise the following:

(1) Re-profiling and realignment of the Channel;
(2) Inclusion of gabions and retaining wall for bank protection whilst providing a natural channel bed; and
(3) Re-provisioning of footbridges and footpaths along the channel

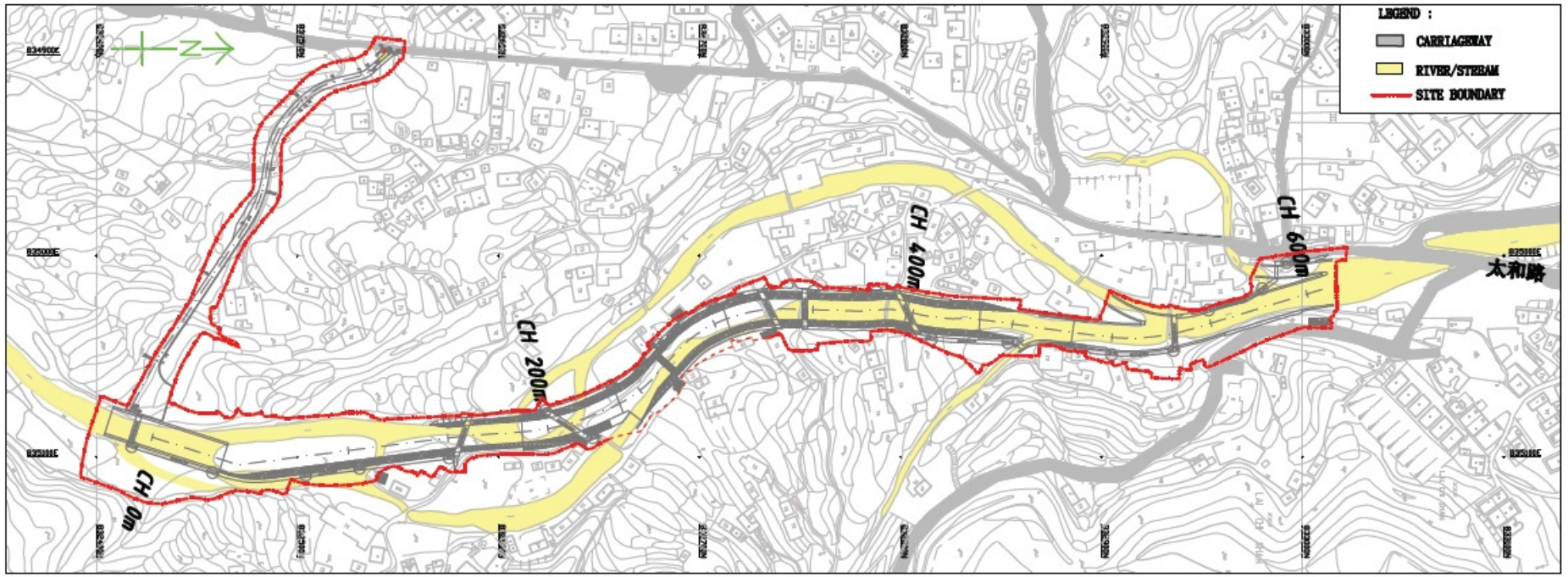
The construction of the proposed improvement works for Upper Tai Po River has been commenced on September 15th 2008 and anticipated to complete in April 2011.

2.3 Proposed construction sequences

The proposed construction sequence is shown in the following sequences:

(1) Site clearance and preparation works
(2) Construction of the maintenance access which involves the construction of retaining walls
(3) River channel construction and excavation, involving the excavation works, construction of retaining walls and gabion walls
(4) Re-provisioning of footbridges
(5) Construction of footpaths
(6) Landscaping works

Fig 2.1 Layout of construction area



2.4 Construction activities for the reporting period

River-based construction activities were ceased in the reporting period since no excavation works in river is allowed due to contractual requirements. The major construction activity carried out in this reporting period was backfilling works for boulder trap.

2.5 Construction activities for the next reporting period

Due to the contractual requirements, no excavation works in river is allowed during wet season and hence no major construction activities will be carried out. Major Construction activities carried out by the contractor anticipated for the coming month include:

(1) Construction of Access Road D;
(2) Backfilling works for gabion walls and retaining walls;
(3) Installation of noise barriers and/or hoardings; and
(4) River reinstatement.

2.6 Non-compliance with the environmental performance limits

There was no non-compliance with the environmental performance limits for this reporting month. The event and action plan for Ecology is shown in Appendix A. The action and limit level for Noise is shown in Appendix B. The reference standards for vibration are shown in Appendix C.

2.7 Summary of complaints

There was no complaint received for this monitoring month. Totally, four complaints had been received since the commencement of the contract. The cumulative complaint log is shown in Appendix F.

3.0 Ecological monitoring results

Capture survey and ecological impact monitoring conducted by Dr. Mark Shea was not scheduled for this month. The next ecological impact monitoring is scheduled in 21st and 22nd July 2009 and the next capture survey is scheduled in November 2009.

4.0 Noise monitoring results

In accordance with the EM&A Manual, monitoring locations were established at 11 N.S.R. locations. The description of all 11 N.S.R. are shown in Table 4.1.

TABLE 4.1 Description of Noise Sensitive Receivers

Sensitive Receiver No.	Location and Description
UTP1	54B, Sheung Wun Yiu
UTP2	Village House in Lai Chi Shan
UTP3	Village House near Upper Tai Po River
UTP4	Village House near Upper Tai Po River
UTP5	Village House near Upper Tai Po River
UTP6	Village House near Upper Tai Po River
UTP7	Village House near Upper Tai Po River
UTP8	Village House near Upper Tai Po River
UTP9	49A, Pun Shan Chau
UTP10	Village House near the proposed access road
UTP11	49G, San Uk Ka

Noise monitoring was carried out by the Environmental Team on weekly basis for this reporting month on 2nd, 9th, 16th, 23rd and 30th June 2009 and the $L_{eq\ (30min)}$ results ranged from 44.3dB(A) to 71.0dB(A), and therefore, no exceedance of action or limit level was recorded in this reporting month. For further details of the monitoring results, graphical plots and the location plan, please refer to Appendix D.

5.0 Vibration monitoring results

There was no vibration monitoring results for this reporting month. Vibration monitoring will be started once the piling works starts in Upper Tai Po River.

6.0 Environmental issues and actions

6.1 Site inspections and key environmental issues

As mentioned in Section 8.1 of the EM&A manual, site inspections were undertaken routinely to inspect the construction activities in Upper Tai Po River to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented. Implementation status of environmental protection and mitigation measures is shown in Appendix G.

Within this reporting month, site inspections were conducted on 3rd, 10th, 17th, 24th and 30th June 2009. A detailed checklist of each site inspection together with comments and relevant photos have been filed and kept. The findings from inspection were summarized in Table 6.1, the ecological inspection prepared by the Ecologist, Dr. Mark Shea were summarized in Table 6.2.

Table 6.1 Summary results of site inspections findings

Date	Findings	Identification	Advice from ET	Action taken	Closing date	Remarks
13 May 09	Open stockpiles of earth material were observed along the site area	Observation	Contractor was advised to control size of stockpile and provide proper tarpaulin coverings to prevent erosion	Piles of earth materials were used for backfilling	17 June 09	--
13 May 09	At UTPR ch.10 Underground water was found gushed from the backfilled pit for boulder trap formation and entered the river stream from the haul access.	Observation	Although immediate follow up actions were carried out to divert the water to the gabion wall for further treatment, contractor was reminded to provide sufficient protective measures before carrying out any works nearby the channel.	No further gushing of underground water was observed and underground water generated at the location was diverted to the gabion wall at lower stream area	03 June 09	--
27 May 09	General wastes were found dumped at the haul access road D during inspection	Observation	Contractor was advised to remove the wastes as soon as possible; regular site checking and cleaning should be provided to maintain the site cleanliness	Regular site cleaning was implemented to maintain good site condition as reported by contractor	03 June 09	--
03 June 09	No major findings for this inspection	N/A	N/A	N/A	N/A	--
10 June 09	No major findings for this inspection	N/A	N/A	N/A	N/A	--
17 June 09	Housekeeping issues of loosing meshes and idling hoses were observed at ch.50 and 210	Observation	Contractor was advised to transfer the idling materials to proper storage area, as to prevent water quality impact and clogging to the river channel	Contractor took the advice and the item was followed prior to the inspection on 24 June	24 June 09	--
17 June 09	Stagnant water was accumulated in the holes of the mass concrete blocks at ch.210	Observation	Contractor was reminded to remove stagnant water from site after rainfall, as to prevent mosquito breeding	Mosquito control measures as a part of daily cleaning has been implemented as reported by contractor	Ongoing	--

Date	Findings	Identification	Advice from ET	Action taken	Closing date	Remarks
17 June 09	Bare soil surface of the excavated boulder trap structure was eroded and silt was observed to be entered the boulder trap section and river channel	Observation	Contractor was advised to backfill the excavated pit as soon as possible. Bunds and/or barriers should be formed to prevent silt water further entering the river channel	Barriers formed by wooden boards and sand bags were provided prior to the inspection on 24 June	24 June 09	--
24 June 09	No major findings for this inspection	N/A	N/A	N/A	N/A	--
30 June 09	No major findings for this inspection	N/A	N/A	N/A	N/A	--

The summary of ecological inspection prepared by the Ecologist, Dr. Mark Shea is shown in Table 6.2.

Table 6.2 Summary results of ecological site inspection findings

Date	Observations	Advice from Ecologist	Action Taken	Closing Date
03 June 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
10 June 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
17 June 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
24 June 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A

6.2 Non-compliance

There was no non-compliance recorded for the month of June 2009.

6.3 Recommendations

Although no major construction activities were being carried out during the reporting month, contractor was reminded for the housekeeping practices as well as status of bunds.

Contractor was advised to provide regular site checking and cleaning to maintain good site condition. Waste generation and accumulation on site should be minimized as major construction was ceased. Contractor should consider enhancing stagnant water removal after rainfall as to prevent mosquito breeding.

Bared soil surface by excavation and open stockpile of earth materials should be prevented on site as far as practicable, else those should be covered by tarpaulin to prevent soil erosion and run-off during rainstorm.

6.4 Implementation status and effectiveness of the mitigation measures

Contractor took most of the advices given by ER, IEC as well as ET and followed up the comments given.

As there were some ongoing follow up practices, contractor was reminded to regularly review and rectify the discrepancy once found.

7.0 Waste management status

It is the contractor's responsibility to ensure that all wastes produced during construction phase for the drainage improvement works are handled, stored and disposed of in accordance with good waste management practices and EPD's regulation and requirement. Waste materials generated during construction activities such as construction and demolition(C&D) material, chemical wastes and general refuse, are recommended to be audited at regular intervals to ensure that proper storage, transportation and general reuse are recommended to be audited to ensure that proper storage, transportation and disposal practices are being implemented. **Table 7.1** is the Waste Disposal recorded by the Contractor in this month.

Table 7.1 Summary of Waste Disposal for the reporting month.

Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
June 2009	0	0	0

The cumulative waste flow table is shown in Appendix H.

8.0 Status of environmental licensing and permit

This project requires different permits and licenses to be run legally. **Table 8.1** is the summary of permits/ licenses for this project.

Table 8.1 Summary of Environmental Licensing and Permit Status

Description	License / Permit No.#	Date of Issue	Date of Expiry	Remarks
Environmental Permit	EP-223/2005	31st Aug, 2005	N/A	Issued
Amended Environmental Permit	EP-223/2005/A	18th Nov, 2008	N/A	Issued
Construction Noise Permit	N/A	N/A	N/A	N/A
Effluent Discharge License	3678	14th Mar, 2008	31st Mar, 2013	Issued
Registration as a Chemical Waste Producer	5213-724-C3251-03	19th Dec, 2007	Not applicable	Issued
Billing Account for Disposal of Construction Waste	7006101	N/A	N/A	N/A

9.0 Future key issues

As informed by contractor, construction of haul access, backfilling works, river reinstatement as well as installation of noise barriers and/or hoardings is the major activities in the upcoming reporting period. In accordance with the requirements in the Environmental Permit as well as the EM&A manual, contractor was reminded to implement proper mitigation measures if found necessary.

For construction of haul access and/or backfilling works, stockpiling of earth material would be found on site and those should be well covered by tarpaulin to prevent erosion.

Construction materials may be used for installation of noise barriers and/or hoardings, such materials should be well stored in designated area to maintain good housekeeping. Stagnant water may be accumulated in those materials hence regular removal would be required.

Construction activities may generate noise impacts to the vicinity of sensitive receivers. Contractor was recommended to well arrange their working schedule as to minimize noise nuisance.

10.0 Conclusion

The major construction activities carried out by the contractor during this reporting period were backfilling works for the boulder trap.

Regular site meetings and inspection audits led by the seniors for discussing environmental issues were held among project proponent, Contractor and the ET on weekly basis.

Environmental Team had carried out construction noise monitoring on weekly basis. All results obtained were within limit and therefore no exceedance was recorded in this reporting month.

Piling works were not scheduled for this month. Therefore, no vibration monitoring was conducted during the reporting month.

From the summary of ecological site inspection findings and implementation status of environmental protection and mitigation for ecology, prepared by the Ecologist Dr. Mark Shea, there is no abnormal finding observed in the reporting month. The ecologist has no further advice and no action suggested to the contractor.

There was no non-compliance recorded for the reporting month.

There was no complaint received for the reporting month.

ET has reminded the contractor to provide environmental pollution control measures wherever necessary; and to keep a good environmental management at site practice.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

Appendix A: Event and action plan for ecology

Event and action plan for ecology

In the event of non-compliance, the Event / Action plan prepared by the ecologist shall be followed. Detailed Event/ Action plan was shown in **Appendix Table 1** for reference.

It is not proposed to set population size of the three species (i.e. Three-lined Chinese Stream Catfish, Predaceous and the Hong Kong Newt) or other faunal species for the Action Level and Limit Level in the revised EM&A manual in considering the following reasons:

I. The schedule capture surveys would let to decrease in the populations of the target species; and

II. The planned drainage works would also temporally de-fauna the stream habitat.

It is considered logical and appropriate to audit non-compliance events in relation with ecological mitigation measures, which were specified in the EP and the PS of the project.

APPENDIX TABLE 1 Event / Action plan table for Ecology

Event	Action			
	ET	**ER**	**IEC**	**Contractor**
Non-conformity on one occasion	1. Identify Source 2. Inform the IEC and the ER 3. Discuss remedial actions with the IEC, the ER and the Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures, 4. Advise the Contractor on effectiveness of proposed remedial measures 5. Check implementation of remedial measures	1. Ensure Remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement
Repeated Non conformity	1. Identify Source 2. Inform the IEC and the ER 3. Increase monitoring frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If exceedance stops, cease additional monitoring	1. Check monitoring report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures 4. Advise the Contractor on effectiveness of proposed remedial measures 5. Check implementation of remedial measures	1. Ensure Remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement

Appendix B: Action and limit level for construction noise

The Action and Limit levels for construction noise are defined in **Appendix Table 2**

Appendix Table 2: Action and Limit Levels for Construction Noise

Time Period	Action	Limit
0700 – 1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)*
0700 – 2300hrs on holidays; and 1900 – 2300 hrs on all other days		Subject to the control of Noise Control Ordinance
2300 – 0700 hrs of next day		Subject to the control of Noise Control Ordinance

*Limit level set in accordance with Particular Specification Section 26

Appendix C: Reference standards for vibration

Guidance regarding vibration limits is provided by the following British Standards (or their equivalent ISO standards):
BS 7385 - Measurement and evaluation of vibration in buildings. Part 2: Guide to damage levels from ground borne vibration.

BS 7385 suggests vibration levels, below which damage is unlikely to occur in 95% of buildings. For cosmetic damage, the level is 15 mm/s at 4 Hz, increasing to 20 mm/s at 15 Hz, increasing to 50 mm/s at 40 Hz and above. Minor structural damage is possible at vibration levels twice those given above, major damage at four times the levels given.

Appendix Table 3: Transient vibration guide values for cosmetic building damage (BS7385:Part 2 1993)

	Type of Building	**Peak component particle velocity (mm/s) in frequency range of predominant pulse**
1	Reinforced or framed structures	50 at 4 Hz and above
2	Un-reinforced or light framed structures	15 at 4 Hz, increasing to 20 at 15 Hz, increasing to 50 at 40 Hz and above.

The vibration magnitudes and frequencies refer to Peak Particle Velocities (PPV) occurring in any single direction, measured on the ground level of the building concerned.

Appendix D: Noise monitoring results, graphical plots and location plan

Location	L_{90} 30min	L_{10} 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	54.6	63.7	61.3	2-Jun-09	09:55-10:25	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avians and public	Sunny	Façade
UTP 2	54.8	61.5	59.8	2-Jun-09	09:20-09:50	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avians and public	Sunny	Façade
UTP 3	47.4	57.6	55.8	2-Jun-09	13:03-13:33	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avians and public	Sunny	Façade
UTP 4	52.3	62.9	61.1	2-Jun-09	10:35-11:05	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avians and public	Sunny	Façade
UTP 5	46.5	56.2	53.7	2-Jun-09	11:10-11:40	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avians and public	Sunny	Façade
UTP 6	49.5	62.3	58.7	2-Jun-09	13:35-14:05	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avians and public	Sunny	Façade
UTP 7	57.4	69.2	66.2	2-Jun-09	14:07-14:37	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avians, dog and public	Sunny	Façade
UTP 8	57.2	60.8	59.6	2-Jun-09	14:40-15:10	1. Noise due to land-based excavation	Background noise from avians and public	Sunny	Façade
UTP 9	53.2	59.1	56.9	2-Jun-09	15:55-16:25	1. Noise due to land-based excavation	Background noise from avians	Sunny	Façade
UTP 10	42.6	54.7	51.8	2-Jun-09	16:35-17:05	1. Noise due to land-based excavation	Background noise from avians	Sunny	Façade
UTP 11	44.4	52.9	51.3	2-Jun-09	15:20-15:50	1. Noise due to land-based excavation	Background noise from avians and public	Sunny	***Free field**

Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

Location	L_{90} 30min	L_{10} 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	56.0	66.8	65.9	9-Jun-09	11:25-11:35	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Sunny	Façade
UTP 2	54.1	64.0	62.3	9-Jun-09	13:00-13:30	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Sunny	Façade
UTP 3	48.7	54.2	53.2	9-Jun-09	14:42-15:12	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 4	60.2	68.0	66.7	9-Jun-09	13:40-14:10	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 5	53.4	60.9	58.9	9-Jun-09	14:12-14:42	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 6	47.1	56.5	55.0	9-Jun-09	15:15-15:45	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 7	50.9	54.3	53.1	9-Jun-09	15:46-16:16	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avians and public	Sunny	Façade
UTP 8	56.4	59.3	58.1	9-Jun-09	16:17-16:47	1. Noise due to land-based excavation	Background noise from public	Sunny	Façade
UTP 9	48.6	54.3	52.5	9-Jun-09	10:40-11:10	1. Noise due to land-based excavation	Background noise from public	Sunny	Façade
UTP 10	49.2	60.2	56.6	9-Jun-09	10:00-10:30	1. Noise due to land-based excavation	Background noise from avians	Sunny	Façade
UTP 11	53.2	72.0	71.0	9-Jun-09	09:25-09:55	1. Noise due to land-based excavation	Background noise from public, dogs. Hammer noise from building innovation	Sunny	***Free field**

Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

Location	L_{90} 30min	L_{10} 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	62.7	71.9	70.1	16-Jun-09	11:25-11:55	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Sunny	Façade
UTP 2	59.3	64.2	63.9	16-Jun-09	13:00-13:30	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Sunny	Façade
UTP 3	47.4	54.2	52.5	16-Jun-09	15:10-15:40	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 4	66.7	72.2	69.9	16-Jun-09	10:45-11:15	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Sunny	Façade
UTP 5	56.5	58.7	58.0	16-Jun-09	13:40-14:10	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 6	48.7	63.0	60.2	16-Jun-09	15:40-16:10	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from dog and public	Sunny	Façade
UTP 7	55.4	61.0	59.3	16-Jun-09	16:11-16:41	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 8	52.4	55.1	54.3	16-Jun-09	16:42-17:12	No construction was being carried out during measurement	Background noise from public	Sunny	Façade
UTP 9	53.1	57.4	56.0	16-Jun-09	14:25-14:55	No construction was being carried out during measurement	Background noise from dog	Sunny	Façade
UTP 10	50.0	57.3	56.7	16-Jun-09	10:01-10:31	No construction was being carried out during measurement	Background noise from avians	Sunny	Façade
UTP 11	50.5	64.4	63.5	16-Jun-09	09:30-10:00	No construction was being carried out during measurement	Background noise from dog and public	Sunny	***Free field**

Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

Location	L_{90} 30min	L_{10} 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	55.0	69.8	67.0	23-Jun-09	10:56-11:26	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Cloudy	Façade
UTP 2	52.8	66.2	63.7	23-Jun-09	11:30-12:00	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Cloudy	Façade
UTP 3	46.3	64.3	59.1	23-Jun-09	13:00-13:30	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	/	Cloudy	Façade
UTP 4	54.6	59.0	57.8	23-Jun-09	16:23-16:53	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Cloudy	Façade
UTP 5	50.1	55.6	54.5	23-Jun-09	15:52-16:22	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Cloudy	Façade
UTP 6	48.8	55.3	54.0	23-Jun-09	13:32-14:02	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Cloudy	Façade
UTP 7	56.8	60.1	59.2	23-Jun-09	14:04-14:34	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public and avians	Cloudy	Façade
UTP 8	49.9	58.6	57.2	23-Jun-09	14:35-15:05	No construction was being carried out during measurement	Background noise from public	Cloudy	Façade
UTP 9	47.4	52.2	50.0	23-Jun-09	15:10-15:40	No construction was being carried out during measurement	Background noise from avians	Cloudy	Façade
UTP 10	41.1	45.8	44.3	23-Jun-09	10:16-10:46	No construction was being carried out during measurement	Background noise from avians	Cloudy	Façade
UTP 11	49.4	56.2	55.2	23-Jun-09	09:45-10:15	No construction was being carried out during measurement	Background noise from public and dogs	Cloudy	***Free field**

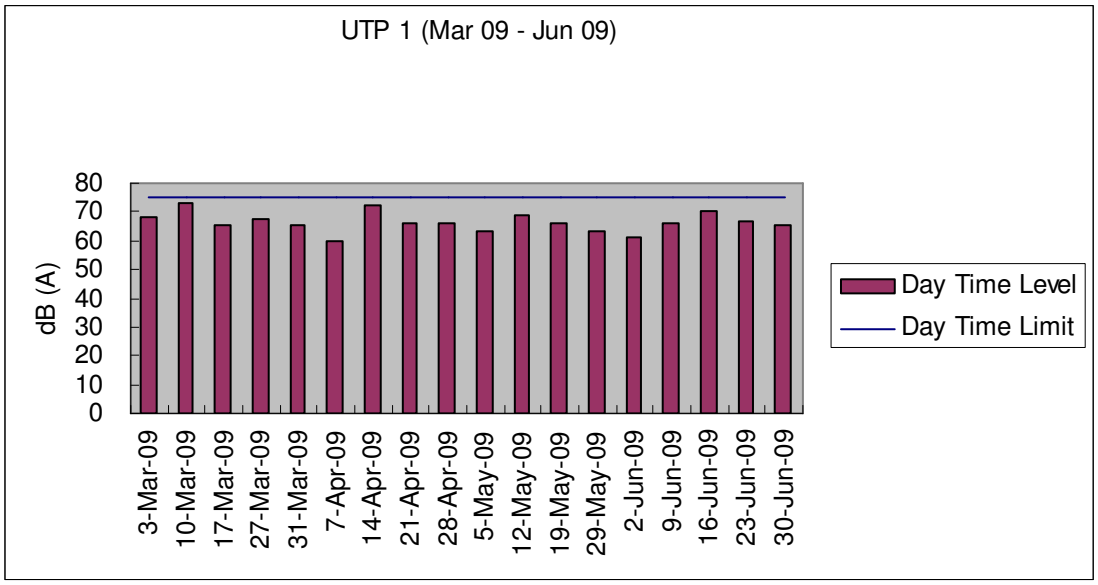
Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

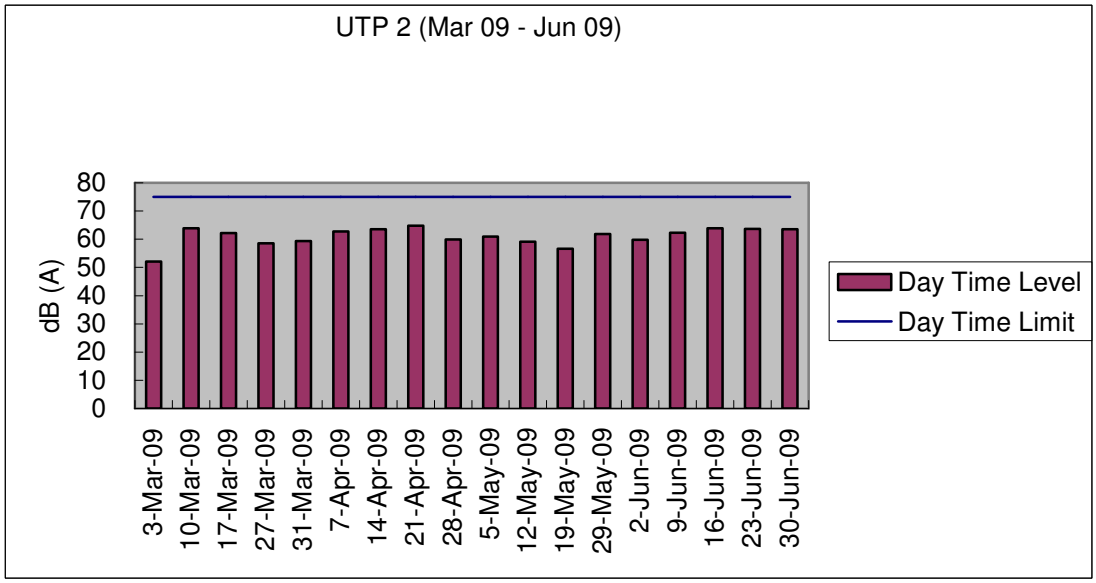
Location	L_{90} 30min	L_{10} 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	57.2	66.8	65.6	30-Jun-09	10:56-11:26	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Cloudy	Façade
UTP 2	55.0	63.8	63.5	30-Jun-09	11:30-12:00	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Cloudy	Façade
UTP 3	46.3	56.8	55.1	30-Jun-09	16:09-16:39	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Cloudy	Façade
UTP 4	55.7	60.4	59.0	30-Jun-09	15:07-15:37	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Cloudy	Façade
UTP 5	51.8	56.0	54.9	30-Jun-09	15:38-16:08	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Cloudy	Façade
UTP 6	46.3	59.3	55.5	30-Jun-09	14:35-15:05	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Cloudy	Façade
UTP 7	47.9	57.8	56.0	30-Jun-09	14:04-14:34	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Cloudy	Façade
UTP 8	51.1	55.2	54.5	30-Jun-09	13:33-14:03	No construction was being carried out during measurement	Background noise from public	Cloudy	Façade
UTP 9	48.6	52.3	51.9	30-Jun-09	13:00-13:30	No construction was being carried out during measurement	Background noise from avians	Cloudy	Façade
UTP 10	43.0	49.5	48.4	30-Jun-09	10:16-10:46	No construction was being carried out during measurement	Background noise from public and dogs	Cloudy	Façade
UTP 11	46.0	53.6	52.0	30-Jun-09	09:45-10:15	No construction was being carried out during measurement	Background noise from public and dogs	Cloudy	***Free field**

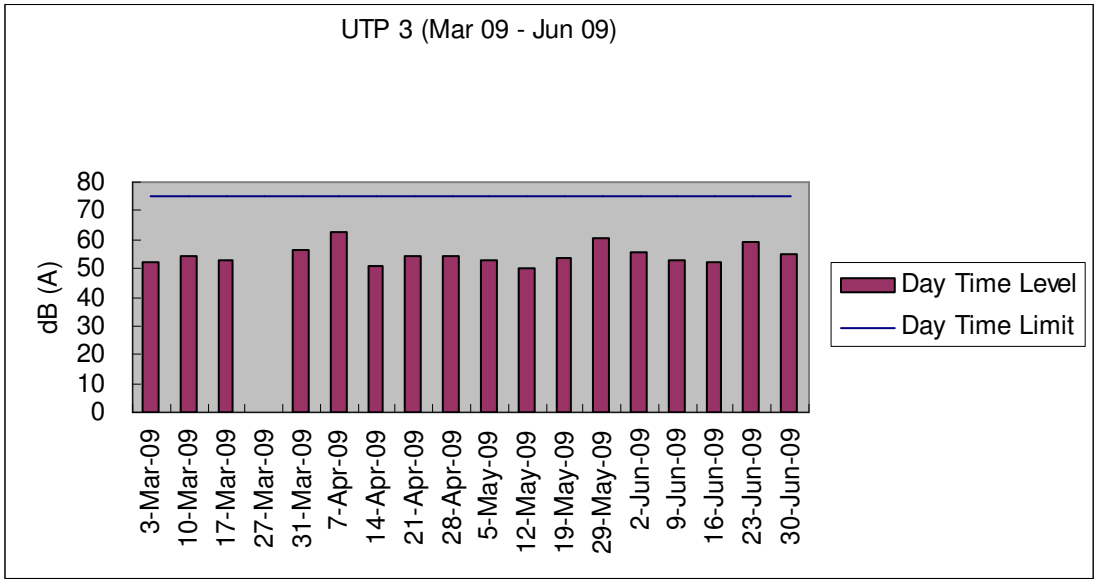
Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

Graphical plot for noise measurements

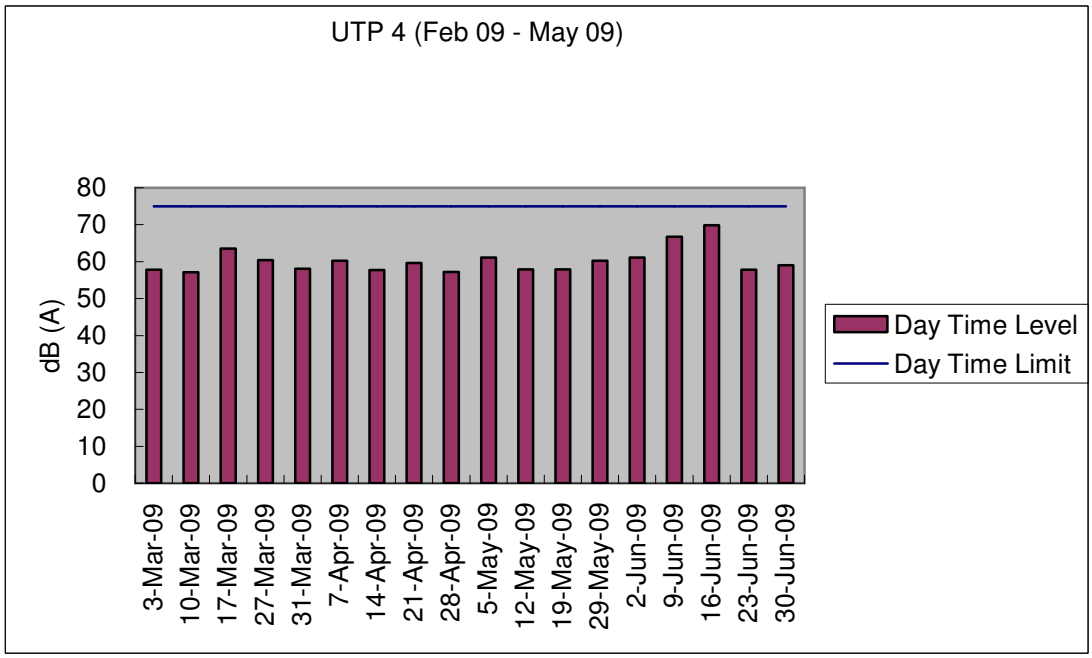
The following plots were the graphical plots for the 11 monitoring locations. Each plot showed the day time limit 75 dB(A), daytime level, date and the measured dB(A) results as in Leq 30min for each location. The graph contains the data recorded from February 2009 to May 2009.

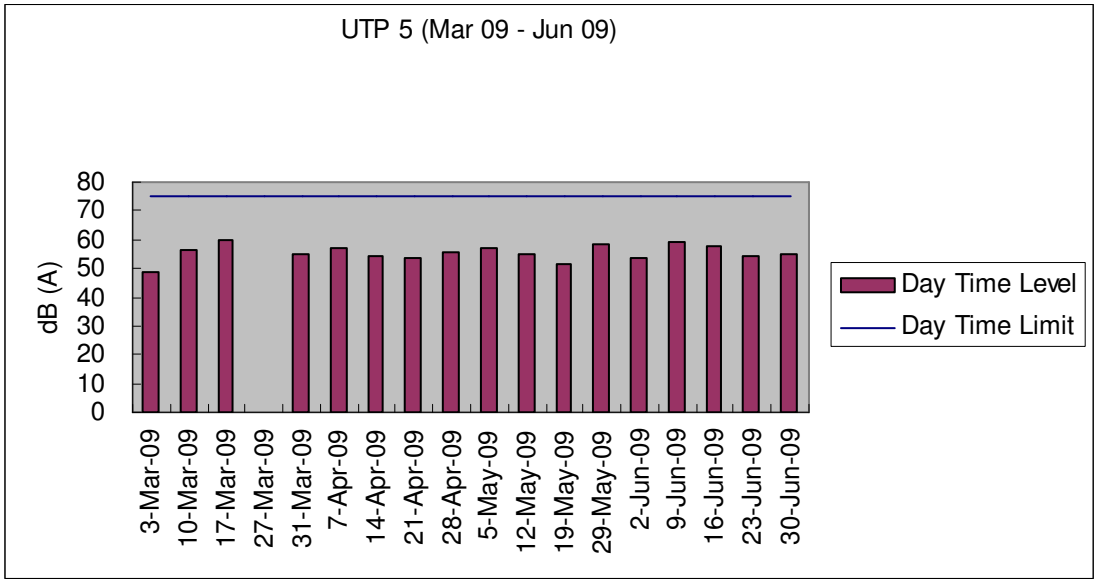




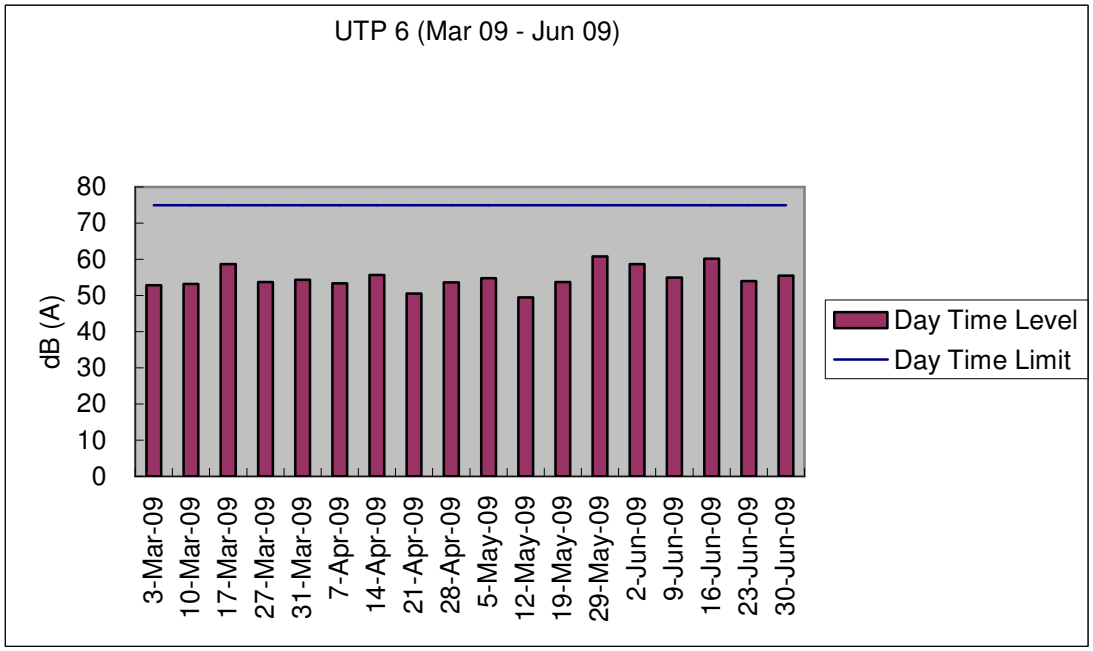


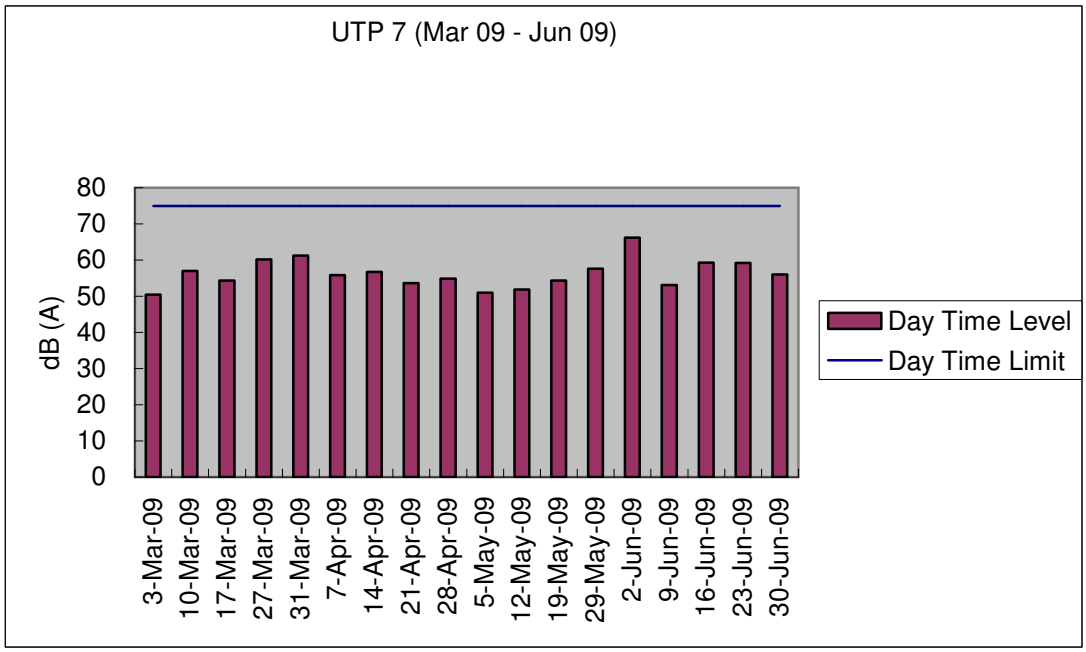
*Noise Monitoring for UTP3 on 27th March 2009 was cancelled due to heavy rain

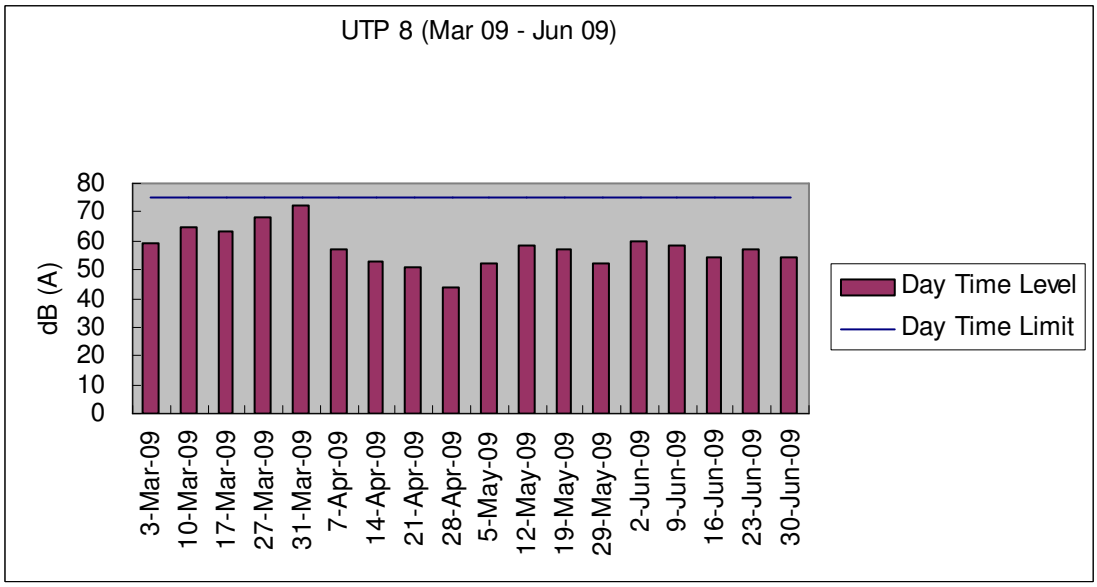


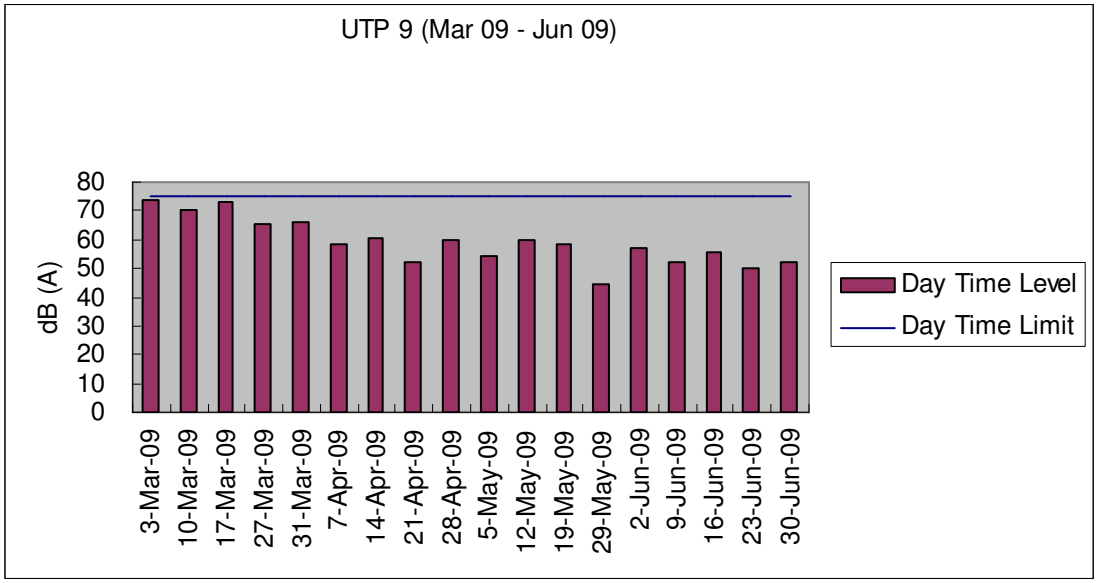


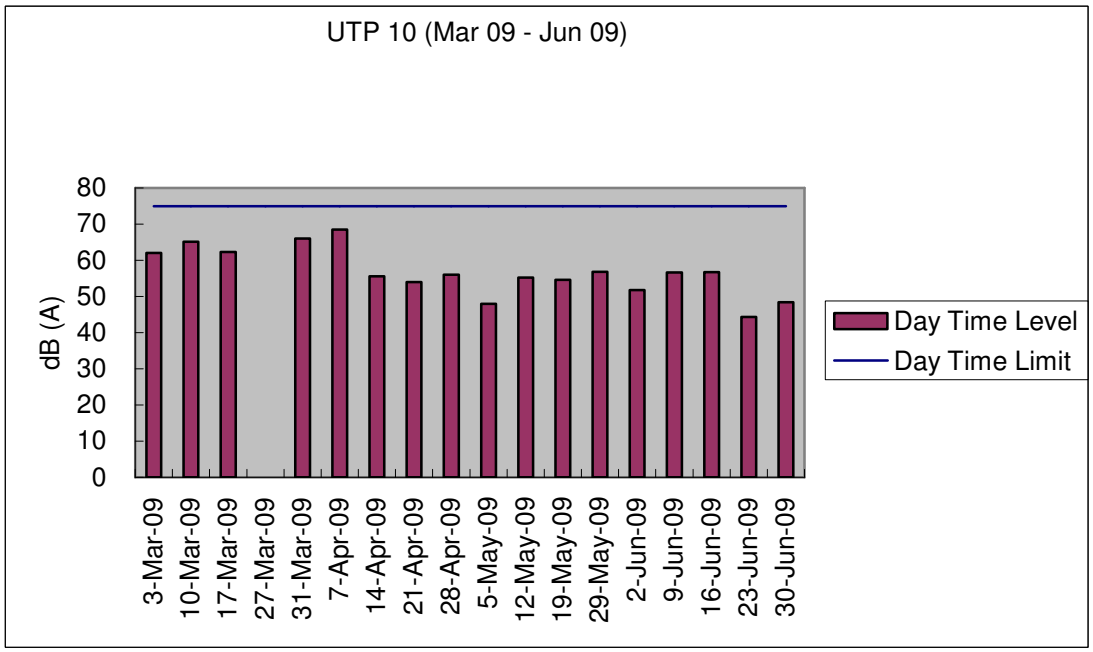
*Noise monitoring for UTP5 on 27th March 2009 was cancelled due to heavy rain



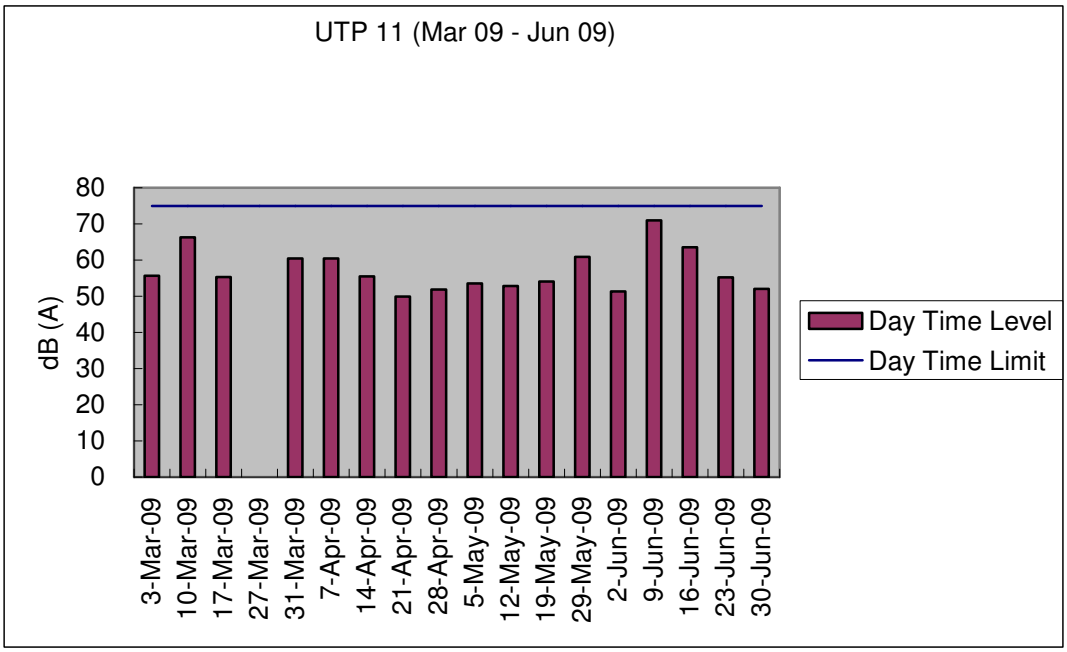

UTP 7 (Mar 09 - Jun 09)
dB (A)
80
70
60
50
40
30
20
10
0
3-Mar-09
10-Mar-09
17-Mar-09
27-Mar-09
31-Mar-09
7-Apr-09
14-Apr-09
21-Apr-09
28-Apr-09
5-May-09
12-May-09
19-May-09
29-May-09
2-Jun-09
9-Jun-09
16-Jun-09
23-Jun-09
30-Jun-09
Day Time Level
Day Time Limit


UTP 8 (Mar 09 - Jun 09)
dB (A)
80
70
60
50
40
30
20
10
0
3-Mar-09
10-Mar-09
17-Mar-09
27-Mar-09
31-Mar-09
7-Apr-09
14-Apr-09
21-Apr-09
28-Apr-09
5-May-09
12-May-09
19-May-09
29-May-09
2-Jun-09
9-Jun-09
16-Jun-09
23-Jun-09
30-Jun-09
Day Time Level
Day Time Limit

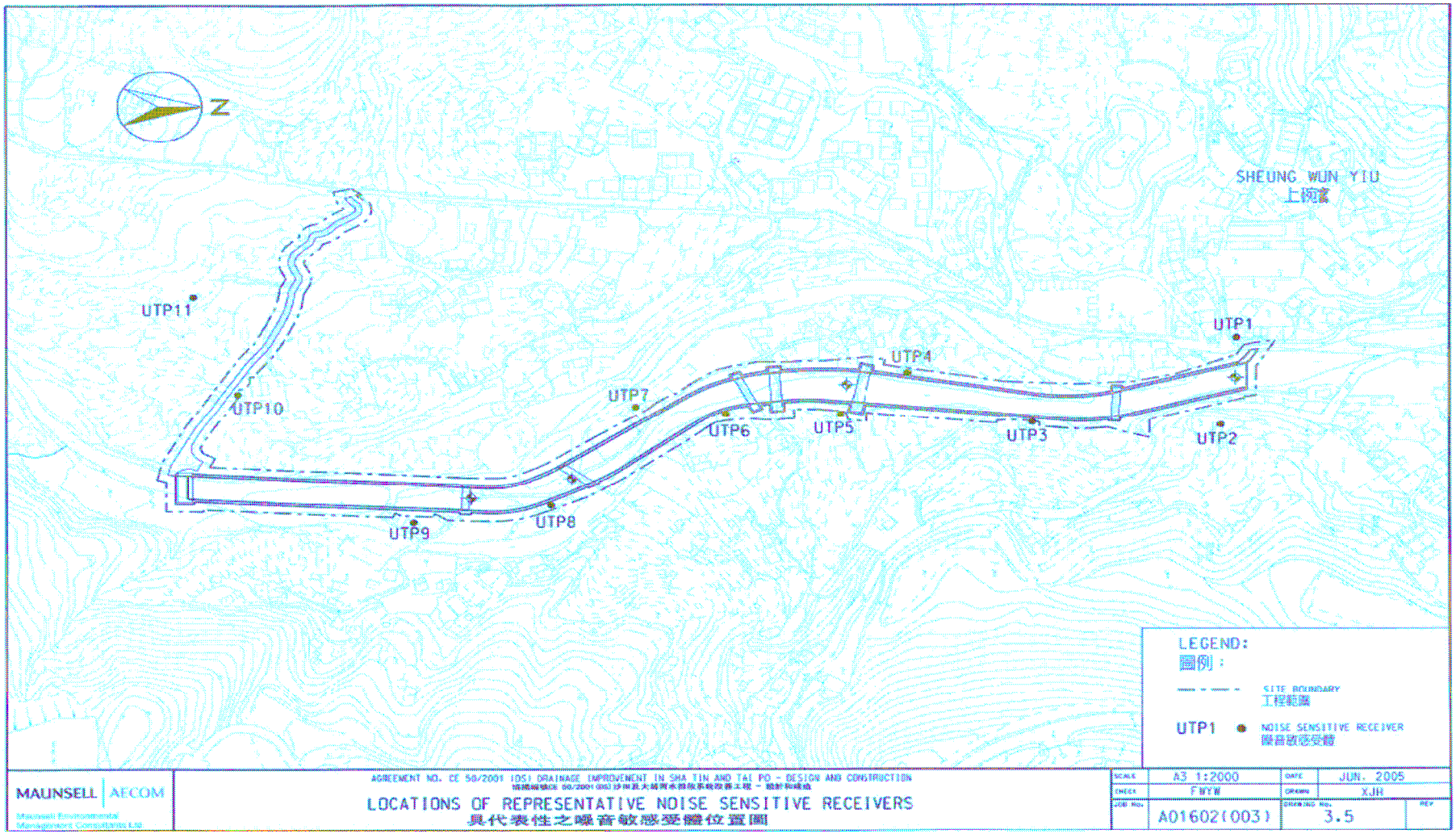




*Noise monitoring for UTP10 on 27th March was cancelled due to heavy rain



*Noise monitoring for UTP11 on 27th March was cancelled due to heavy rain


N
SHEUNG WUN YIU
上碗窰
UTP11
UTP10
UTP9
UTP8
UTP7
UTP6
UTP5
UTP4
UTP3
UTP2
UTP1
LEGEND:
圖例：
SITE BOUNDARY
工程範圍
UTP1
NOISE SENSITIVE RECEIVER
噪音敏感受體
MAUNSELL AECOM
Maunsell Environmental Management Consultants Ltd
AGREEMENT NO. CE 58/2001 (DS) DRAINAGE IMPROVEMENT IN SHA TIN AND TAI PO - DESIGN AND CONSTRUCTION
LOCATIONS OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS
具代表性之噪音敏感受體位置圖
SCALE A3 1:2000
DATE JUN. 2005
CHECK FWYW
DRAWN XJH
JOB No. A01602(003)
DRAWING No. 3.5
REV

Appendix E: Monitoring schedule for the present and next reporting period

Master Schedule of EM&A works in June 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	6/1	6/2	6/3	6/4	6/5	6/6
		Noise monitoring	Site inspection at afternoon			
6/7	6/8	6/9	6/10	6/11	6/12	6/13
		Noise monitoring	Site inspection at afternoon			
6/14	6/15	6/16	6/17	6/18	6/19	6/20
		Noise monitoring	Site inspection at afternoon			
6/21	6/22	6/23	6/24	6/25	6/26	6/27
		Noise monitoring	Site inspection and SSEMC at morning			
6/28	6/29	6/30				
		Noise monitoring, and Site inspection at afternoon				

Master Schedule of EM&A works in July 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			7/1	7/2	7/3	7/4
7/5	7/6	7/7	7/8	7/9	7/10	7/11
		Noise monitoring	Site inspection at afternoon			
7/12	7/13	7/14	7/15	7/16	7/17	7/18
		Noise monitoring	Site inspection at afternoon			
7/19	7/20	7/21	7/22	7/23	7/24	7/25
		Noise monitoring			Site inspection and SSEMC at morning	
7/26	7/27	7/28	7/29	7/30	7/31	
		Noise monitoring	Site inspection at afternoon			

Appendix F: Cumulative complaint log

Environmental Parameters	Cumulative no. Brought forward	No. of complaint June 2009	Overall Total
Air/Dust	1	0	1
Noise	1	0	1
Water	2	0	2
House Keeping Hygiene	0	0	0
Chemical waste	0	0	0
Total	4	0	4

Appendix G: Implementation status of environmental protection and mitigation measures

Implementation status of environmental protection and mitigation

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Construction Noise	No percussive piling shall be carried out	Not applicable	Not required
	-Use well maintained construction plant	Implemented	Not required
	-Shut down plants between work periods	Implemented	Not required
	-Install silencers on construction equipment	Implemented	Not required
	-Locate mobile plant far away from NSRs	Implemented	Not required
	-Quiet plants should be used	Implemented	Not required
	-2m high temporary noise barriers, as stipulated in EP condition 2.9, shall be installed	Implemented	Not required
Fugitive Dust Emission	-Implement regular watering and vehicle washing facilities	Implemented	Not required
	-Cover excavated or stockpile of dusty material by impervious sheeting or sprayed with water	Implemented	Not required
	-Use tarpaulin to cover dusty materials on vehicles	Implemented	Not required
Water Quality	Excavation works within the Tai Po River within the Project shall be carried out in stages and excavation area for each stage shall be limited to section of half width of the channel and less than 100m long at any one time in order to maintain water flow within the river during construction stage	Not applicable at this stage	Not required
	Land-based plant shall be employed and site run-off shall be directed towards regularly cleaned and maintained silt traps and oil / grease separators to minimize leakage and loss of sediments during excavation	Not applicable at this stage	Not required
	Large boulders removed from the Tai Po River within the Project during excavation shall be re-instated upon completion of works A section of 150m long natural riverbank on the western side of the river channel (Ch0 –Ch150) shall be retained	Not applicable at this stage	Not required
	The excavation area shall be enclosed with bunds or barriers and dewatered prior to excavation to minimize the impacts upon the downstream of the Tai Po River	Not applicable at this stage	Not required
	Provide silt trap and oil interceptor to remove the oil, lubricants, grease, silt, grit and debris from the wastewater before pumped to the public storm water drainage system	Not applicable at this stage	Not required
	Provide site toilet facilities	Implemented	Not required

Waste Management	Reuse excavated material as far as possible	Implemented	Not required
	Recycle scrap metals or abandoned equipment	Implemented	Not required
	Adopt a trip ticket system for the disposal of C&D materials	Implemented	Not required
	All general refuse should be segregated and stored in enclosed bins or compaction units	Implemented	Not required
Vibration	Percussive piling is to be replaced by bore-hole piling to minimize vibration impacts to the two identified Declared monuments	Not applicable at this stage	Not required
	Carrying out of vibration monitoring to ensure that vibration associated with the construction phase do not exceed the threshold limit otherwise contractor have to review the work method and construction activities have to be slow down or rescheduled to reduce the impacts	Not applicable at this stage	Not required
	Close monitoring and measurement on the cracks of the external wall of Fan Sin Temple during construction works will be carried out. Any changes on the cracks will be recorded for the contractor to slow down the construction activities accordingly; and to review the work methods and equipments immediately	Not Applicable at this stage	Not required

Implementation status of environmental protection and mitigation for ecology, prepared by the Ecologist, Dr. Mark Shea.

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Ecology	Large boulders will be returned to the riverbed following the excavation works.	Not applicable	Not required
	Construction works from Ch. 0.0m – Ch. 150m would be along one side of the river only	Not applicable	Not required
	Approximately 150m of the existing natural riverbank on the western side of the river would be retained.	Implemented	Not required
	Excavation works within the river channel should be restricted to an enclosed dewater section of the river, and would be limited to sections 50-100m long at any one time.	Implemented	Not required
	Flows to the area downstream shall be maintained at all times during the construction phase	Implemented	Not required
	Capture survey shall be conducted within the Tai Po River before commencement of works. The captured target species shall be relocated to areas of the watercourse upstream of the watercourse upstream of the Tai Po River	Capture surveys had been conducted at the beginning of the Contract, during the wet season July/August 2008 and 4th November 2008	Not required
	Temporary noise barriers should be constructed to control noise impacts to habitats and associated wildlife within and adjacent to the proposed works area	Implemented	Not required
	Excavation works shall be carried out by land based plant within enclosed dry section of river channel.	Implemented	Not required
	Compensatory planting of trees and other vegetation along the banks of the newly improved drainage channel should be provided to compensate for the loss of riparian vegetation.	Not applicable	Not required
	Operation phase activities in the improved drainage channel would be limited to periodic channel maintenance such as de-silting.	Not applicable	Not required

Appendix H: Cumulative waste flow table

Cumulative waste flow table since September 15th 2008

Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
September 2008	0	0	0
October 2008	0	2 tonnes	0
November 2008	$36m^3$	0	0
December 2008	0	0	0
January 2009	0	0	0
February 2009	0	0	0
March 2009	0	0	0
April 2009	0	0	0
May 2009	0	0	20kg*
June 2009	0	0	0
Total	$36m^3$	2 tonnes	20kg

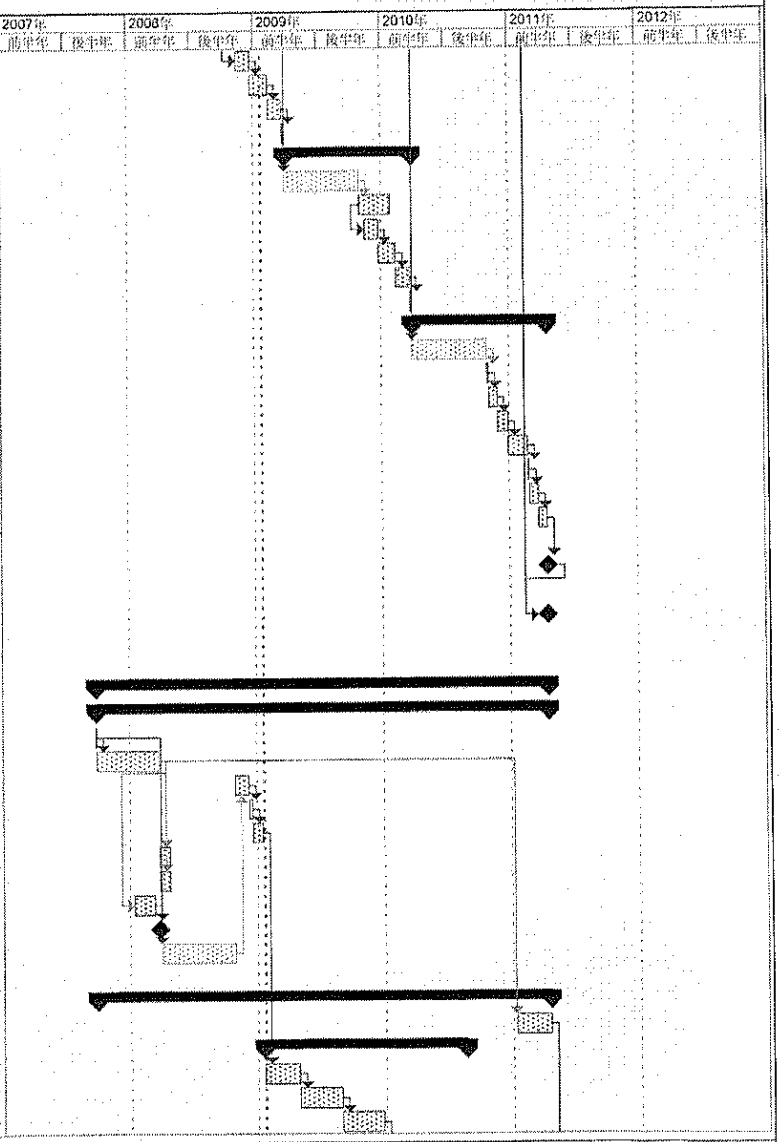
Remark*: Chemical wastes generated from the project sites including Upper Tai Po River, Lam Tsuen River and She Shan River were centralized for disposal.

Appendix I: Construction programme

Drainage Services Department

Contract No. DC/2007/06
River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River
Master Programme

流水號	Task Name	工期	最早開始時間	最早完成時間	開始時間	完成時間
720	Rockfill & Blinding	40 days	2008/11/16	2008/12/25	2008/11/16	2008/12/25
721	Retaining Wall	50 days	2008/12/26	2009/2/13	2008/12/26	2009/2/13
722	Gabion Wall	40 days	2009/2/14	2009/3/25	2009/2/14	2009/3/25
723	Install Ducts/Fencing/Railings/Drainage	5 days	2009/3/26	2009/3/30	2009/3/26	2009/3/30
724	**From CHL 1700 to CHL 1550**	**364 days**	**2009/4/1**	**2010/3/30**	**2009/4/1**	**2010/3/30**
725	Wet Season (April to Oct 2009)	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
726	Excavation	90 days	2009/11/1	2010/1/29	2009/11/1	2010/1/29
727	Rockfill & Blinding	40 days	2009/11/16	2009/12/25	2009/11/16	2009/12/25
728	Retaining Wall	50 days	2009/12/26	2010/2/13	2009/12/26	2010/2/13
729	Gabion Wall	40 days	2010/2/14	2010/3/25	2010/2/14	2010/3/25
730	Install Ducts/Fencing/Railings/Drainage	5 days	2010/3/26	2010/3/30	2010/3/26	2010/3/30
731	**Footbridge, Platform and Fill Slope**	**384 days**	**2010/4/1**	**2011/4/19**	**2010/4/1**	**2011/4/19**
732	Wet Season (April to Oct 2010)	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
733	Provision of Temp. footbridge	5 days	2010/11/1	2010/11/5	2010/11/1	2010/11/5
734	Footing for footbridge	25 days	2010/11/6	2010/11/30	2010/11/6	2010/11/30
735	Dwarf Wall	30 days	2010/12/1	2010/12/30	2010/12/1	2010/12/30
736	Footbridge	55 days	2010/12/31	2011/2/23	2010/12/31	2011/2/23
737	Demolition of existing footbridge	5 days	2011/2/24	2011/2/28	2011/2/24	2011/2/28
738	Box Culvert	25 days	2011/3/1	2011/3/25	2011/3/1	2011/3/25
739	Footpaths Maintenance Stairway	25 days	2011/3/26	2011/4/19	2011/3/26	2011/4/19
740						
741	Completion of Area K	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
742						
743	Completion of Work at Section 2	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
744						
745						
746	**Section 3 - Upper Tai Po River (Area L, N & P)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
747	**Section 3 - Upper Tai Po River (Area L)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
748	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28
749	Possession to Portion of the Site (Area L)	181 days	2007/9/29	2008/3/27	2007/9/29	2008/3/27
750	Temp. Site Access	40 days	2008/11/1	2008/12/10	2008/11/1	2008/12/10
751	Site Clearance	10 days	2008/12/11	2008/12/20	2008/12/11	2008/12/20
752	Chainlink Fencing Work / Hoarding	30 days	2008/12/21	2009/1/19	2008/12/21	2009/1/19
753	Initial Survey	30 days	2008/3/28	2008/4/26	2008/3/28	2008/4/26
754	Condition Surveys / Set up markers	30 days	2008/3/28	2008/4/26	2008/3/28	2008/4/26
755	Preparation of Temporary Works Design	60 days	2008/1/14	2008/3/13	2008/1/14	2008/3/13
756	Approval of Temporary Works Design	0 days	2008/3/27	2008/3/27	2008/3/27	2008/3/27
757	Wet Season (April to Oct 2008)	214 days	2008/4/1	2009/10/31	2008/4/1	2008/10/31
758						
759	**Chainage from CH 0 to CH130**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
760	Access to the Site	100 days	2011/1/10	2011/4/19	2011/1/10	2011/4/19
761	**Boulder Trap**	**580 days**	**2009/1/20**	**2010/8/22**	**2009/1/20**	**2010/8/22**
762	Excavation	100 days	2009/1/20	2009/4/29	2009/1/20	2009/4/29
763	Rockfill & Blinding Layer	120 days	2009/4/30	2009/8/27	2009/4/30	2009/8/27
764	Base Slab Structure	120 days	2009/8/28	2009/12/25	2009/8/28	2009/12/25



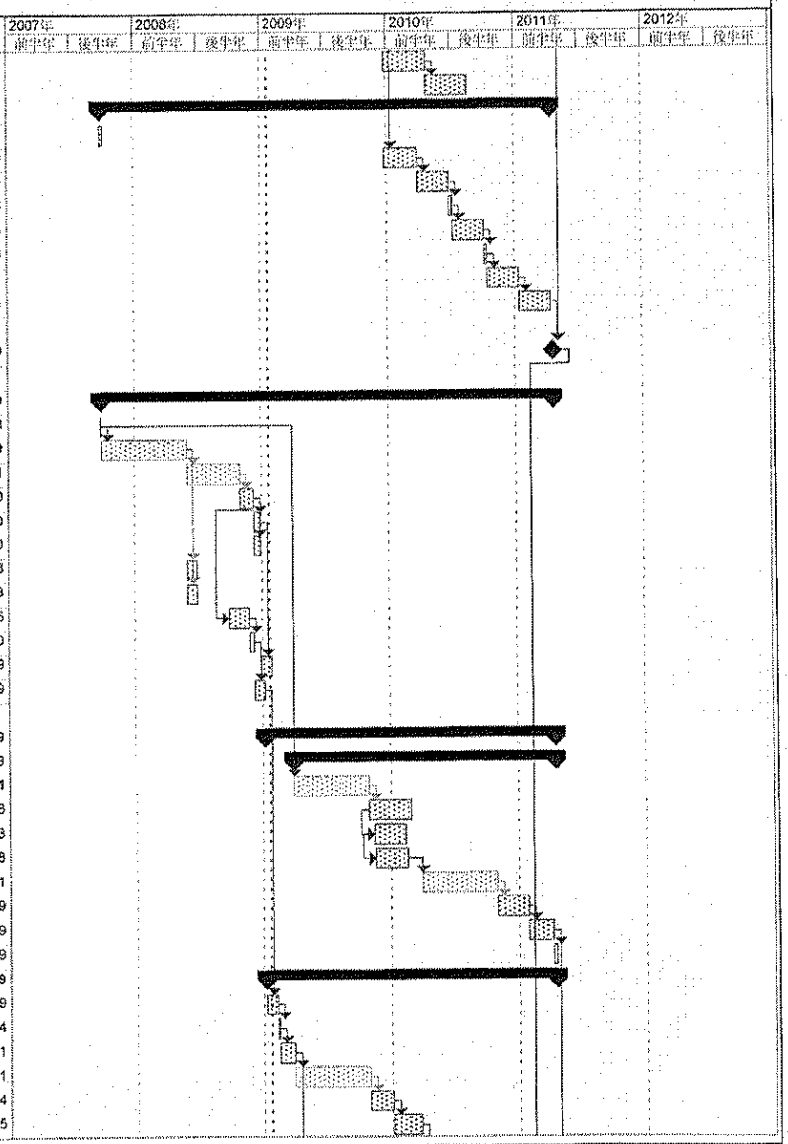
Project: Master Programme (REV.7)
Data Date: Jan 2009
Consultant: MCAL

Task | Task Progress | Critical Task | Critical Task Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary

Drainage Services Department

Contract No. DC/2007/06
River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River
Master Programme

識別碼	Task Name	工期	最早開始時間	最早完成時間	開始實際	完成時間
765	Wall Structure	120 days	2009/12/26	2010/4/24	2009/12/26	2010/4/24
766	Cut/Fill Slope	120 days	2010/4/25	2010/8/22	2010/4/25	2010/8/22
767	**Footbridge, Platform and Fill Slope**	**1295 days**	**2007/9/28**	**2011/4/14**	**2007/9/28**	**2011/4/14**
768	Provision of Temp. footbridge	10 days	2007/9/28	2007/10/7	2007/9/28	2007/10/7
769	Footing for footbridge	95 days	2009/12/26	2010/3/30	2009/12/26	2010/3/30
770	Gabion Wall	90 days	2010/3/31	2010/6/28	2010/3/31	2010/6/28
771	Install Ducts/Fencing/Railings/Drainage	10 days	2010/6/29	2010/7/8	2010/6/29	2010/7/8
772	Footbridge (TB1)	90 days	2010/7/9	2010/10/6	2010/7/9	2010/10/6
773	Demolition of existing footbridge	10 days	2010/10/7	2010/10/16	2010/10/7	2010/10/16
774	Platform & Fill Slope & Maintenance stairway	90 days	2010/10/17	2011/1/14	2010/10/17	2011/1/14
775	Footpaths	90 days	2011/1/15	2011/4/14	2011/1/15	2011/4/14
776						
777	Completion of Area L	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
778						
779	**Section 3 - Upper Tai Po River (Area P)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
780	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28
781	Possession to Portion of the Site (Area P)	244 days	2007/9/29	2008/5/29	2007/9/29	2008/5/29
782	Wet Season	155 days	2008/5/30	2008/10/31	2008/5/30	2008/10/31
783	Temp. Site Access	40 days	2008/11/1	2008/12/10	2008/11/1	2008/12/10
784	Site Clearance	20 days	2008/12/11	2008/12/30	2008/12/11	2008/12/30
785	Chainlink Fencing Work	20 days	2008/12/11	2008/12/30	2008/12/11	2008/12/30
786	Initial Survey	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
787	Condition Surveys / Set up markers	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
788	Preparation of Temporary Works Design	60 days	2008/9/28	2008/11/26	2008/9/28	2008/11/26
789	Approval of Temporary Works Design	14 days	2008/11/27	2008/12/10	2008/11/27	2008/12/10
790	S.I. Works	30 days	2008/12/31	2009/1/29	2008/12/31	2009/1/29
791	Temp. Shoring Works	30 days	2008/12/11	2009/1/9	2008/12/11	2009/1/9
792						
793	**Chainage from CHL 250 to CHL 130**	**830 days**	**2009/1/10**	**2011/4/19**	**2009/1/10**	**2011/4/19**
794	**From CHL 250 to CHL 130**	**749 days**	**2009/4/1**	**2011/4/19**	**2009/4/1**	**2011/4/19**
795	Wet Season (April to Oct 2009)	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
796	Excavation	120 days	2009/11/1	2010/2/28	2009/11/1	2010/2/28
797	Rockfill & Blinding	90 days	2009/11/16	2010/2/13	2009/11/16	2010/2/13
798	Base Slab Structure	90 days	2009/11/21	2010/2/18	2009/11/21	2010/2/18
799	Wet Season (April to Oct 2010)	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
800	Wall Structure	90 days	2010/11/1	2011/1/29	2010/11/1	2011/1/29
801	Gabion Wall	70 days	2011/1/30	2011/4/9	2011/1/30	2011/4/9
802	Install Ducts/Fencing/Railings/Drainage	10 days	2011/4/10	2011/4/19	2011/4/10	2011/4/19
803	**Footbridge, Platform and Cut/Fill Slope**	**830 days**	**2009/1/10**	**2011/4/19**	**2009/1/10**	**2011/4/19**
804	Demolition of existing structure	31 days	2009/1/10	2009/2/9	2009/1/10	2009/2/9
805	Provision of Temp. footbridge	5 days	2009/2/10	2009/2/14	2009/2/10	2009/2/14
806	Footing for Footbridge (TB3)	45 days	2009/2/15	2009/3/31	2009/2/15	2009/3/31
807	Wet Season	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
808	Dwarf Wall	65 days	2009/11/1	2010/1/4	2009/11/1	2010/1/4
809	Footbridge (TB3)	60 days	2010/1/5	2010/3/25	2010/1/5	2010/3/25



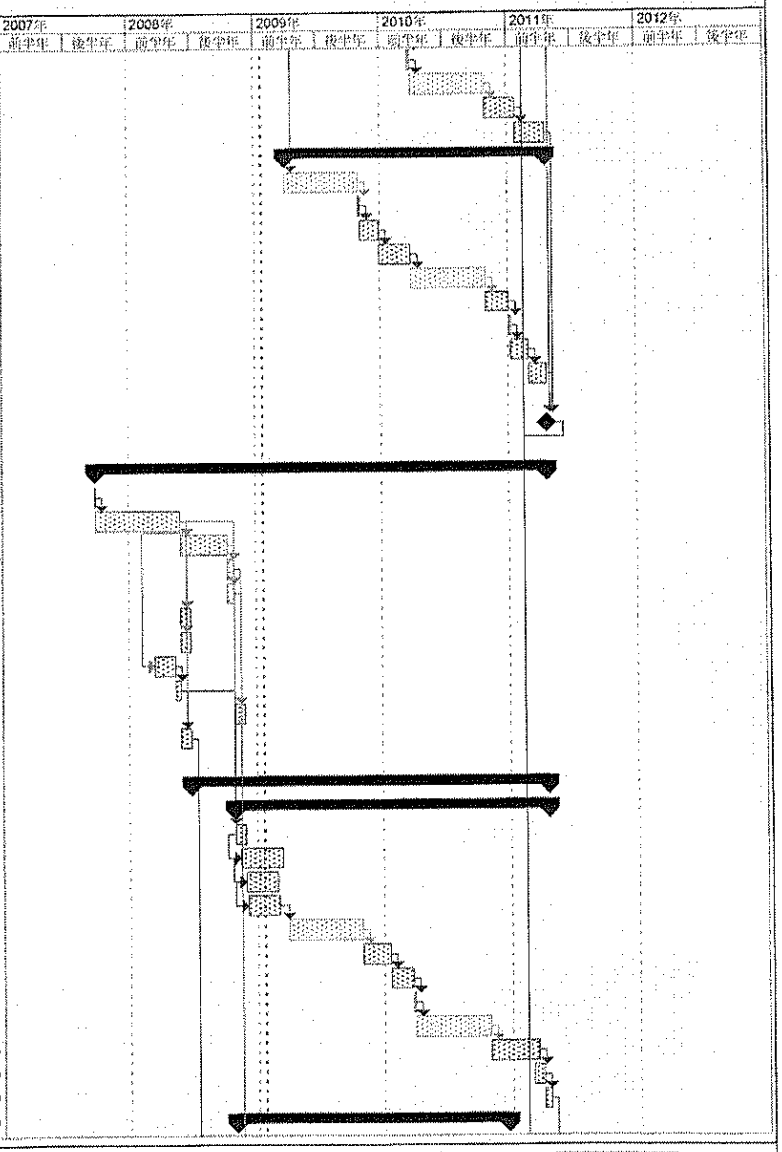
Project: Master Programme (REV.7)
Data Date: Jan 2009
Consultant: MCAL

Task | Task Progress | Critical Task | Critical Task Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary

Drainage Services Department

Contract No. DC/2007/06
River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River
Master Programme

識別號	Task Name	工期	最早開始時間	最早完成時間	最新時間	完成時間
810	Demolition of existing footbridge	6 days	2010/3/26	2010/3/31	2010/3/26	2010/3/31
811	Wet Season	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
812	Platform & Cut/Fill Slope & Maintenance Stairway	85 days	2010/11/1	2011/1/24	2010/11/1	2011/1/24
813	Footpaths	85 days	2011/1/25	2011/4/19	2011/1/25	2011/4/19
814	**Footbridge, Platform and Cut/Fill Slope**	**749 days**	**2009/4/1**	**2011/4/19**	**2009/4/1**	**2011/4/19**
815	Wet Season	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
816	Provision of Temp. footbridge	5 days	2009/11/1	2009/11/5	2009/11/1	2009/11/5
817	Footing for Footbridge (TB2)	55 days	2009/11/6	2009/12/30	2009/11/6	2009/12/30
818	Dwarf Wall	91 days	2009/12/31	2010/3/31	2009/12/31	2010/3/31
819	Wet Season	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
820	Footbridge (TB2)	65 days	2010/11/1	2011/1/4	2010/11/1	2011/1/4
821	Demolition of existing footbridge	5 days	2011/1/5	2011/1/9	2011/1/5	2011/1/9
822	Platform & Cut/Fill Slope & Maintenance Stairway	50 days	2011/1/10	2011/2/28	2011/1/10	2011/2/28
823	Footpaths	50 days	2011/3/1	2011/4/19	2011/3/1	2011/4/19
824						
825	Completion of Area P	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
826						
827	**Section 3 - Upper Tai Po River (Area N)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
828	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28
829	Possession to Portion of the Site (Area N)	244 days	2007/9/29	2008/5/29	2007/9/29	2008/5/29
830	Temp. Site Access (XP/TTA)	135 days	2008/5/30	2008/10/11	2008/5/30	2008/10/11
831	Site Clearance	20 days	2008/10/12	2008/10/31	2008/10/12	2008/10/31
832	Chainlink Fencing Work	20 days	2008/10/12	2008/10/31	2008/10/12	2008/10/31
833	Initial Survey	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
834	Condition Surveys / Set up markers	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
835	Preparation of Temporary Works Design	60 days	2008/3/17	2008/5/15	2008/3/17	2008/5/15
836	Approval of Temporary Works Design	14 days	2008/5/16	2008/5/29	2008/5/16	2008/5/29
837	S.I. Works	30 days	2008/11/1	2008/11/30	2008/11/1	2008/11/30
838	Temp. Shoring Works	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
839						
840	**Chainage from CHL 230 to CHL 600**	**1025 days**	**2008/6/29**	**2011/4/19**	**2008/6/29**	**2011/4/19**
841	**From CHL 230 to CHL 380**	**900 days**	**2008/11/1**	**2011/4/19**	**2008/11/1**	**2011/4/19**
842	Temp. Shoring Works	30 days	2008/11/1	2008/11/30	2008/11/1	2008/11/30
843	Excavation	120 days	2008/11/16	2009/3/15	2008/11/16	2009/3/15
844	Rockfill & Blinding	90 days	2008/12/1	2009/2/28	2008/12/1	2009/2/28
845	Base Slab Structure	90 days	2008/12/6	2009/3/5	2008/12/6	2009/3/5
846	Wet Season (April to Oct 2009)	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
847	Wall Structure	80 days	2009/11/1	2010/1/19	2009/11/1	2010/1/19
848	Gabion Wall	65 days	2010/1/20	2010/3/25	2010/1/20	2010/3/25
849	Install Ducts/Fencing/Railings/Drainage	6 days	2010/3/26	2010/3/31	2010/3/26	2010/3/31
850	Wet Season (April to Oct 2010)	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
851	Footbridge (TB4 & TB5)	135 days	2010/11/1	2011/3/15	2010/11/1	2011/3/15
852	Dwarf Wall	30 days	2011/3/1	2011/3/30	2011/3/1	2011/3/30
853	Demolition of Existing Footbridge	20 days	2011/3/31	2011/4/19	2011/3/31	2011/4/19
854	**Construction of Retaining Wall (TR5)**	**780 days**	**2008/11/1**	**2010/12/20**	**2008/11/1**	**2010/12/20**



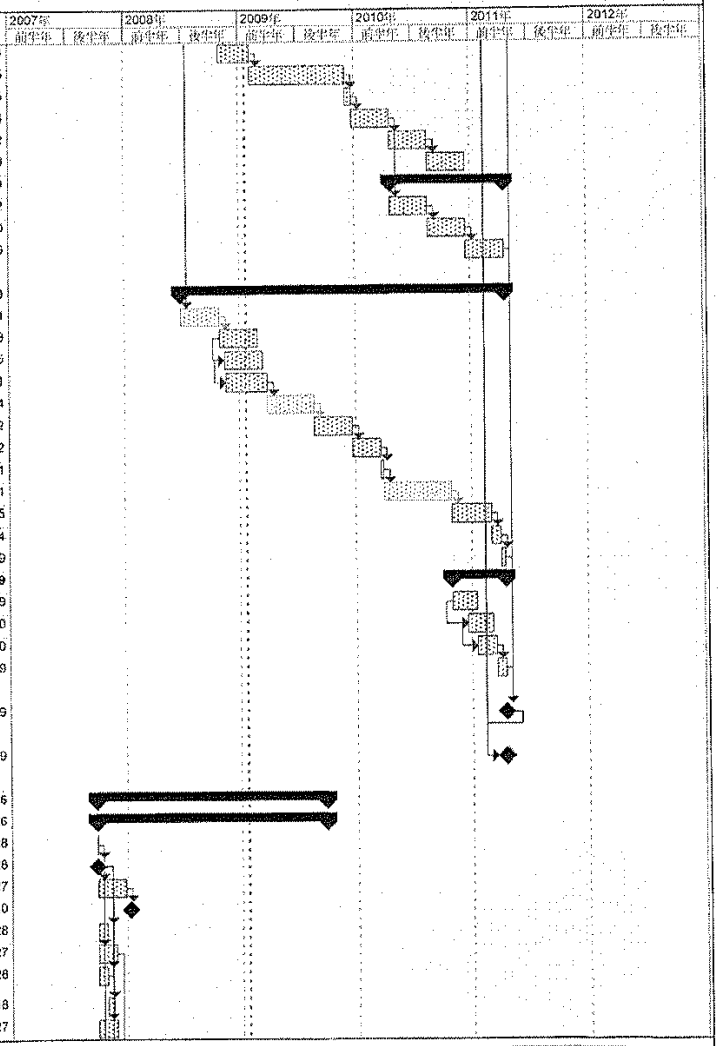
Project: Master Programme (REV.7)
Data Date: Jan 2009
Consultant: MCAL

Task | Task Progress | Critical Task | Critical Task Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary

Drainage Services Department

Contract No. DC/2007/06
River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River
Master Programme

	Task Name	工期	最早開始時間	最早完成時間	開始時間	完成時間
855	Cut Rock Slope	100 days	2008/11/1	2009/2/8	2008/11/1	2009/2/8
856	Pre-bored H-Pile (76 Nos)	300 days	2009/2/9	2009/12/5	2009/2/9	2009/12/5
857	Loading test for piles	20 days	2009/12/6	2009/12/25	2009/12/6	2009/12/25
858	Excavation	120 days	2009/12/26	2010/4/24	2009/12/26	2010/4/24
859	Base Slab	120 days	2010/4/25	2010/8/22	2010/4/25	2010/8/22
860	Wall Stem	120 days	2010/8/23	2010/12/20	2010/8/23	2010/12/20
861	**Construction of Retaining Wall (TR4)**	**360 days**	**2010/4/25**	**2011/4/19**	**2010/4/25**	**2011/4/19**
862	Excavation	120 days	2010/4/25	2010/8/22	2010/4/25	2010/8/22
863	Base Slab	120 days	2010/8/23	2010/12/20	2010/8/23	2010/12/20
864	Wall Stem	120 days	2010/12/21	2011/4/19	2010/12/21	2011/4/19
865						
866	**From CH380 to CH530**	**1025 days**	**2008/6/29**	**2011/4/19**	**2008/6/29**	**2011/4/19**
867	Wet Season (April to Oct 2009)	125 days	2008/6/29	2008/10/31	2008/6/29	2008/10/31
868	Excavation	120 days	2008/11/1	2009/2/28	2008/11/1	2009/2/28
869	Rockfill & Blinding	120 days	2008/11/16	2009/3/15	2008/11/16	2009/3/15
870	Base Slab Structure	131 days	2008/11/21	2009/3/31	2008/11/21	2009/3/31
871	Wet Season (April to Oct 2010)	146 days	2009/4/1	2009/8/24	2009/4/1	2009/8/24
872	Wall Structure	120 days	2009/8/25	2009/12/22	2009/8/25	2009/12/22
873	Gabion Wall	90 days	2009/12/23	2010/3/22	2009/12/23	2010/3/22
874	Install Ducts/Fencing/Railings/Drainage	9 days	2010/3/23	2010/3/31	2010/3/23	2010/3/31
875	Wet Season	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
876	Footbridge (TB6 & TB7)	125 days	2010/11/1	2011/3/5	2010/11/1	2011/3/5
877	Dwarf Wall	30 days	2011/3/6	2011/4/4	2011/3/6	2011/4/4
878	Demolition of Existing Footbridge	15 days	2011/4/5	2011/4/19	2011/4/5	2011/4/19
879	**Footbridge, Platform and Cut/Fill Slope**	**170 days**	**2010/11/1**	**2011/4/19**	**2010/11/1**	**2011/4/19**
880	Platform & Cut/Fill Slope & Maintenance Stairway	80 days	2010/11/1	2011/1/19	2010/11/1	2011/1/19
881	Footpaths	80 days	2010/12/21	2011/3/10	2010/12/21	2011/3/10
882	Box Culverts	60 days	2011/1/20	2011/3/20	2011/1/20	2011/3/20
883	Construct Cascade	30 days	2011/3/21	2011/4/19	2011/3/21	2011/4/19
884						
885	Completion of Area N	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
886						
887	Completion of Work at Section 3	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
888						
889	**Section 4 - Box Culvert at Ping Long**	**730 days**	**2007/9/28**	**2009/9/26**	**2007/9/28**	**2009/9/26**
890	**Section 4 - Box Culvert (Area A)**	**730 days**	**2007/9/28**	**2009/9/26**	**2007/9/28**	**2009/9/26**
891	Commencement of Works	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28
892	Possession to Portion of the Site (Area A)	0 days	2007/9/28	2007/9/28	2007/9/28	2007/9/28
893	Material Submission	90 days	2007/9/29	2007/12/27	2007/9/29	2007/12/27
894	Material Submission Approval	0 days	2008/1/10	2008/1/10	2008/1/10	2008/1/10
895	Initial Survey	30 days	2007/9/29	2007/10/28	2007/9/29	2007/10/28
896	Application of Excavation Permit	60 days	2007/9/29	2007/11/27	2007/9/29	2007/11/27
897	Preparation and Submission of TTA on Lam Kam Road to RMO and TD	30 days	2007/9/29	2007/10/28	2007/9/29	2007/10/28
898	Approval of TTA	21 days	2007/10/29	2007/11/18	2007/10/29	2007/11/18
899	Site Clearance	60 days	2007/9/29	2007/11/27	2007/9/29	2007/11/27



Project: Master Programme (REV.7)
Data Date: Jan 2009
Consultant: MCAL

Task | Task Progress | Critical Task | Critical Task Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary