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 February 2009

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Executive summary

This is the sixth monthly Environmental Monitoring and Audit (EM&A) Report for the river improvement works at Upper Tai Po River under Drainage Service 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 form 1st February 2009 to 28th February 2009. The major construction activities carried out by the contractor during this reporting period include construction of boulder trap and gabion wall.

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 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. Most of the results were within limit levels except one exceedance was found at UTP 9, please refer to section 2.6 for further details. 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, Environmental Team had not carried out vibration monitoring during the month.

There was a non-compliance recorded as noise exceedance was found on February 3rd 2009. Please refer to section 2.6 for further details.

There was no formal public complaint received in the reporting month.

There was one breach of Action and Limit levels for noise, please refer to section 2.6

for further details.

There was no reporting change for this month.

Key construction activities in the coming month will include construction of boulder trap, gabion wall, footbridge foundation and site reinstatement. It is expected that noise impacts, runoff impacts and waste disposal will be generated on site.

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 sixth monthly Environmental Monitoring and Audit (EM&A) Report for the river improvement works at Upper Tai Po River under Drainage Service 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 was 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 February 2009. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the 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

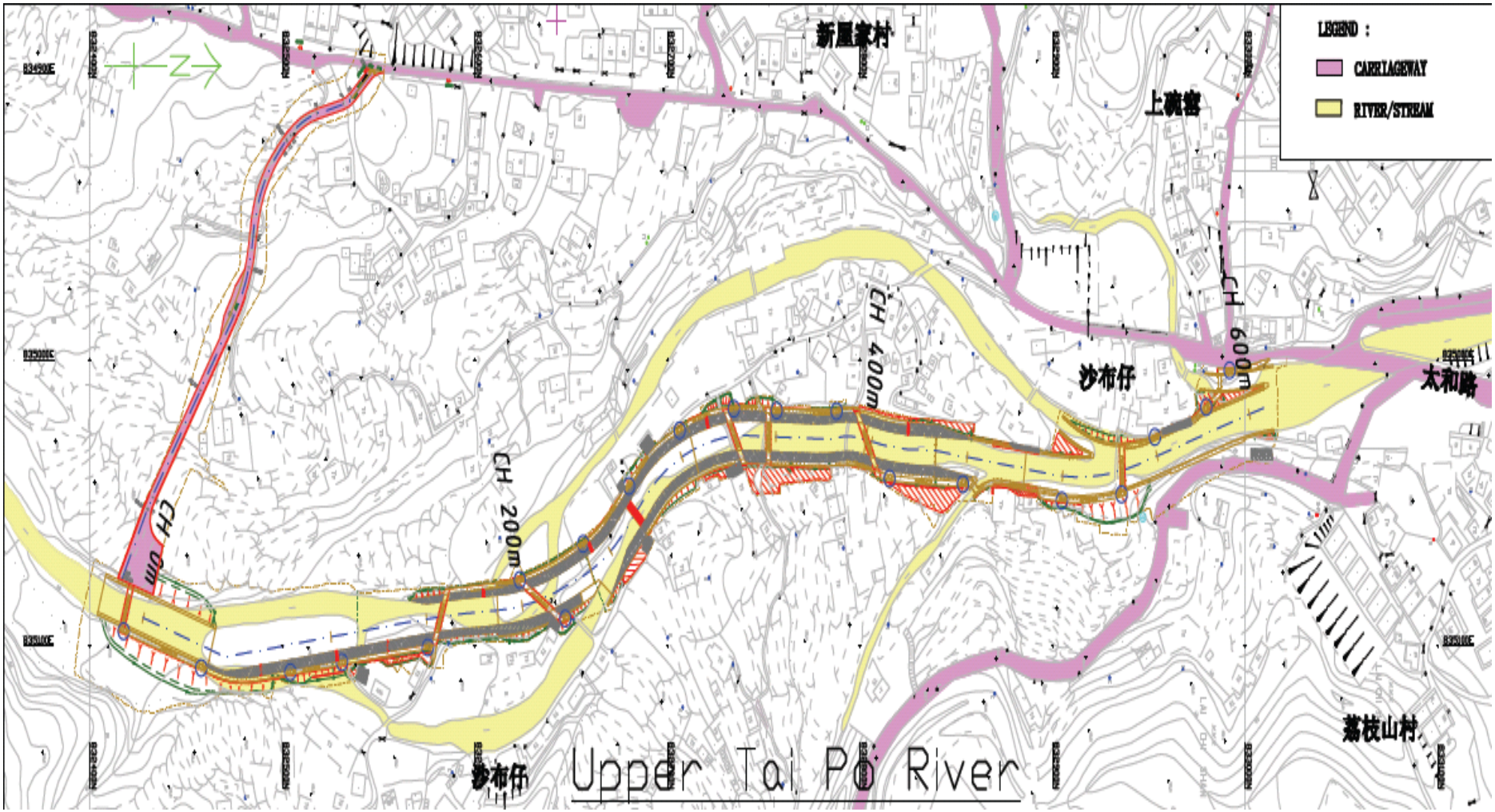
The construction of the proposed improvement works for Upper Tai Po River has been commenced on September 15th 2008 and anticipated to complete in April 2011.

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

Major construction activities carried out by the contractor during this reporting period include:

(1) Construction of boulder trap
(2) Construction of gabion wall

2.5 Construction activities for the next reporting period

Major construction activities carried out by the contractor anticipated for the coming month include:

(1) Construction of boulder trap
(2) Construction of gabion wall
(3) Construction of footbridge foundation
(4) Site reinstatement

2.6 Non-compliance with the environmental performance limits

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.

There was a non-compliance of construction noise measurement criteria occurred on February 3rd 2009 at location UTP 9 at 13:00pm. The $L_{eq\ (30min)}$ was 78.8 dB(A) that was over the limit of 75.0 dB(A). ET has carried out an investigation and the findings showed that noise impact was mainly due to the construction works of continuous boulder breaking, excavation and boulder removing. Contractor took action immediately by stopping the construction work of continuous boulder breaking between works period, which is related to one of the noise mitigation measures in the EM&A manual. A re-measurement was conducted for the noise exceedance location UTP 9, on the same day February 3rd 2009 at 15:00pm. The result of $L_{eq\ (30min)}$ was 73.5dB(A), which was below of the limit level. The above event and follow up actions were done and notified to relevant parties for record. Contractor was reminded to keep their noise at the lowest level that they could achieve and to maintain the construction noise below the limit level at 75.0dB(A). The template for interim notification of environmental quality for the non-compliance of noise exceedance is shown in

Appendix J.

For the detailed information and graphical plots of the noise measurement, please refer to section 4.1 and Appendix D.

2.7 Summary of complaints

There was no complaint received for this monitoring month. Totally, three 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 July 2009 and the next capture survey is scheduled in November 2009.

4.0 Noise monitoring location

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. The location plan is shown in Appendix D.

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

4.1 Noise monitoring results

Noise monitoring was carried out by the Environmental Team as weekly basis for this month on 3rd, 4th, 10th, 11th, 17th, 18th, 24th and 25th February 2009 The $L_{eq\ (30min)}$ results ranged from 48.6dB(A) to 78.8dB(A). There was one exceedance recorded for UTP 2 on February 3rd as it was described in section 2.6. For further details of the monitor results and graphical plots, 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.

Site inspections were conducted on 4th, 11th, 19th and 25th February 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 inspection findings

Date	Observations	Observation or Non-compliance	Advice from ET	Action Taken	Closing date	Remarks
Feb 4th 2009 (Follow up site inspection for Jan 30th 2009)	1.Domestic discharge accumulated on UTPR site ch. 210. (Jan 30th site inspection)	Observation	Contractor was advised to provide larvicide to the stagnant water accumulated by surrounding domestic discharge at ch. 210 of UTPR.	The contractor removed the stagnant water prior to the February 4th site inspection.	Feb 4th 2009	--
	2.Oil leakage was found from the idling roller at UTPR. (Jan 30th site inspection)	Observation	Oil leakage from the idling roller at UPTR ch. 0 was observed during inspection. Contractor was advised to provide maintenance to the equipment to prevent further leakage. Also. Soil that was contaminated by oil should be handled as chemical waste as required.	The idling roller and the contaminated soil was removed off the site prior to the February 4th site inspection.	Feb 4th 2009	--

Table 6.1 Summary results of site inspection findings

Date	Observations	Observation or Non-compliance	Advice from ET	Action Taken	Closing date	Remarks
Feb 4th 2009	1.General wastes were found poorly dumped at access road D.	Observation	General wastes were found poorly dumped at site access road D, contractor was advised to segregate and store wastes at designated collection area for further disposal.	The general wastes found at site were removed off the site prior to the February 11th site inspection.	Feb 11th 2009	--
	2.Chemical leakage from the hand held compactor was found at access Road D of UTPR.	Observation	Chemical leakage from the hand held compactor was found at UTPR access road D. Contractor was reminded to provide proper maintenance for the hand held compactor and to treat contaminated soil by proper chemical waste treatment method.	The hand held compactor and the contaminated soil was removed off the site prior to the February 11th site inspection.	Feb 11th 2009	--
Feb 11th 2009	1.De-silting tank placed improperly on the boulders near riverside, located at ch. 210 of UTPR.	Observation	De-silting tank placed on top of the boulders, at the riverside of UTPR ch.210, should be moved to site area with better foundation.	The de-silting tank was removed from the mentioned location prior to the February 19th site inspection.	Feb 19th 2009	--
	2.Damaged pipeline and turbid water found at UTPR.	Observation	Pipeline transferring site water to the soak-away pond at UTPR, was found	A new pipeline replaced the damaged pipeline for water	Feb 19th 2009	--

Table 6.1 Summary results of site inspection findings

Date	Observations	Observation or Non-compliance	Advice from ET	Action Taken	Closing date	Remarks
			damaged and muddy water was leaking into the river channel during inspection. Contractor was requested to stop the operation of the pipeline immediately. Damaged pipeline should be replaced as soon as possible and new pipe should be placed on earth instead of traveling through river channel.	transferring and it was placed on earth prior to the February 19th site inspection.		
	3.Chemical wastes bucket without proper covering was found located at UTPR access road D.	Observation	Contractor was reminded to provide a proper covering to the buckets collecting chemical wastes at UTPR access road D and ping Long. Those buckets should be stored on site temporarily and moved to the chemical waste cabinet when chemical waste collection is done.	The chemical waste bucket was removed from the mentioned location prior to the February 19th site inspection.	Feb 19th 2009	--
Feb 19th 2009	1.Steel bars and sandbags were placed on top of the bund at UTPR	Observation	Construction materials and sandbags were found storing on top of bunds	The steel bars and sandbags were removed from the ch. 50 prior to	Feb 25th 2009	--

Table 6.1 Summary results of site inspection findings

Date	Observations	Observation or Non-compliance	Advice from ET	Action Taken	Closing date	Remarks
			located at ch. 50 of UTPR. Contractor should remove those materials form the bunds as soon as possible to avoid potential contamination to the river	the February 25th site inspection.		
	2.Chemical waste container was improperly used as collecting water at site entrance of UTPR	Observation	Bucket labeled as collecting chemical wastes, was found used improperly for collecting water at site entrance of UTPR. Contractor should instruct their site staffs on not using specified containers for alternative purposes	The chemical waste container was removed of the site prior to the February 25th site inspection.	Feb 25th 2009	--
Feb 25th 2009	1.Bonnet of the air compressor was opened at UTPR.	Observation	Noise minimizing bonnet of the air compressor was found opened during inspection. Contractor should remind their staff to always keep such noise minimizing features for plants in function.	To be reported in the Monthly EM&A Report for March 2009.	To be reported in the Monthly EM&A Report for March 2009.	
	2.Solidified concrete waste was poorly dumped at site entrance of	Observation	The contractor was advised to remove the solidified concrete waste dumped	To be reported in the Monthly EM&A Report for March 2009.	To be reported in the Monthly	

Table 6.1 Summary results of site inspection findings

Date	Observations	Observation or Non-compliance	Advice from ET	Action Taken	Closing date	Remarks
	UTPR		at site entrance of UTPR. The contractor should assign a designated spot with effective containment, to collect the concrete waste left over by concreting works.		EM&A Report for March 2009.	
	3.Defective sedimentation tank was found at UTPR.	Observation	The sedimentation tank at UTPR (ch. 150) did not effectively treat the site water during inspection. Contractor was advised to stop further discharge from the tank to the river channel and rectify the deficiencies immediately.	To be reported in the Monthly EM&A Report for March 2009.	To be reported in the Monthly EM&A Report for March 2009.	
	4.Open stockpile without proper covering at UTPR access road D.	Observation	Contractor was advised to cover the open stockpile at UTPR access road D.	To be reported in the Monthly EM&A Report for March 2009.	To be reported in the Monthly EM&A Report for March 2009	

Table 6.1 Summary results of site inspection findings

Date	Observations	Observation or Non-compliance	Advice from ET	Action Taken	Closing date	Remarks
	5.Broken sandbags should be replaced at access road D of UTPR.	Observation	Contractor was reminded to remove the broken sandbags at the Road D area of UTPR to avoid any earth materials entering the stream of UTPR.	To be reported in the Monthly EM&A Report for March 2009.	To be reported in the Monthly EM&A Report for March 2009.	
	6.Earth bunds without proper covering at UTPR ch. 150 approximately.	Observation	Earth bunds were found poorly covered at ch. 50 & 150 of UTPR. Contractor was advised to rectify such discrepancy as soon as possible.	To be reported in the Monthly EM&A Report for March 2009	To be reported in the Monthly EM&A Report for March 2009	

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
Feb 4th 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	Feb 11th 2009
Feb 11th 2009	No Action is required to be taken	No Advice is required	No Action is required to be taken	Feb 19th 2009
Feb 19th 2009	No Action is required to be taken	No Advice is required	No Action is required to be taken	Feb 25th 2009
Feb 25th 2009	No Action is required to be taken	No Advice is required	No Action is required to be taken	Mar 4th 2009

6.2 Non-compliance

There was a non-compliance recorded for the month of February 2009 for noise exceedance as it was mentioned in the above section 2.6. Please refer to section 2.6 for detailed information.

6.3 Recommendations

The contractor should be aware of the conditions of de-silting tanks for site water treatment. Immediate actions should be taken to check and fix the silt removal facility when it was found not functioned properly. Site water shall not be directly discharged to the river channel before the facility is fixed. Also, the contractor should arrange a proper location to place the de-silting tank; it should not be placed on boulders of the riverside.

The contractor should be aware of the effectiveness of site water mitigation measures that they implemented. The defective bunds should be rectified once they were found on site. Broken pipe that was used for transferring site water should be replaced immediately.

Equipments and plants that were found leaking chemical on site should be repaired

immediately. The contaminated soil should be handled and disposed as chemical waste. Also, the chemical waste container should be properly labeled and the chemical waste container should be used for collecting chemical waste only without any other purposes.

Open stockpiles on site should be kept to a minimum size; the contractor should have coverings on the open stockpile to avoid dust and runoff concern.

6.4 Implementation status and effectiveness of the mitigation measures

During the inspection, it was found that the contractor removed the de-silting tank from the boulders and placed it on a stable location. The broken pipeline was replaced with an effective pipeline for transferring site water. The contractor should rectify the defective bund by placing new geo-textile materials on the defective bund that was found on site.

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
February 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

Key construction activity in the coming month will be the construction of boulder trap, gabion wall, footbridge foundation and site reinstatement. The construction activities for these items will generate several environmental impacts. These include air, noise, water and waste.

Site construction activities may generate dust impact to the vicinity of sensitive receivers. Contractor is advised to provide regular water spraying to the dusty static area. Open stockpiles should also be covered with tarpaulin to prevent erosion.

The construction machines and plants would generate noise. These machines and plants may be in intermittent use should be shut down between work periods or should be throttled down to a minimum in order to minimize the noise impact from

the construction activities.

Boulder breaking activities by the hydraulic breaker will generate construction noise. Since the hoarding (noise barriers) for the construction section was completed, proper wrapping of the hydraulic breaker is recommended to reduce the noise impact.

The construction of boulder trap and the gabion wall may generate runoff and water concern at the site. The contractor shall implement proper barriers formed by bunds, rocks and geo-textile or wastewater treatment facilities to avoid muddy water being discharged into the stream.

It is expected that construction waste would be generated on site for the boulder trap and the gabion wall construction. Contractor shall assign proper site storage area with proper label to indicate the relative construction materials.

Site reinstatement is required due to the forthcoming wet season. The contractor should pay attention to the construction facilities by not affecting the river channel. The contractor should maintain proper environmental mitigation measures on site.

10.0 Conclusion

The major construction activities carried out by the contractor during this reporting period include construction of boulder trap and gabion wall.

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 and one exceedance was found. Please refer to section 2.6 for further details.

Piling works were not scheduled for this month. Therefore, Environmental Team had not carried out vibration monitoring during the 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.

A non-compliance recorded for the reporting month, please refer to section 2.6 and 6.2 for further details.

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		L90 30min	L10 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP	1	53.1	67.3	66.7	Feb 3rd 2009	16:40-17:10	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	1 Traffic noise, 2 Public noise, 3 Water flowing noise	Sunny	Façade
UTP	2	44.0	53.8	50.9	Feb 4th 2009	11:19-11:49	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	1 Traffic noise	Sunny	Façade
UTP	3	43.9	50.4	48.6	Feb 3rd 2009	14:15-14:45	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	1 Water flowing noise, 2 Bird's noise	Sunny	Façade
UTP	4	53.2	61.1	59.6	Feb 3rd 2009	16:07-16:37	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	1. Traffic noise, 2 Public noise, 3 Water flowing noise	Sunny	Façade
UTP	5	48.3	61.5	59.3	Feb 3rd 2009	15:35-16:05	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	1 Public noise, 2 Traffic noise, 3 Water flowing noise, 4 Dog barking noise	Sunny	Façade
UTP	6	44.9	50.5	49.1	Feb 3rd 2009	10:35-11:05	1 Boulder breaking noise, 2 Excavator noise	1 Public noise, 2 Water flowing noise	Sunny	Façade
UTP	7	47.1	55.2	52.6	Feb 3rd 2009	11:20-11:50	1. Boulder breaking noise, 2 Excavator noise, 3 Boulder removing noise	1 Public noise, 2 Water flowing noise	Sunny	Façade
UTP	8	53.8	67.1	63.5	Feb 3rd 2009	13:35-14:05	1. Excavator Noise, 2 Boulder Breaking noise	None	Sunny	Façade
UTP Note* 2	**9**	**63.6**	**82.3**	**78.8**	**Feb 3rd 2009**	**13:00-13:30**	**1. Continuous Boulder breaking noise, 2 Excavator noise, 3 Boulder removing noise**	**None**	**Sunny**	**Façade**
UTP	10	54.3	66.2	62.7	Feb 3rd 2009	9:55-10:25	1.Excavator noise, 2 Boulder breaking noise, 3 Boulder removing noise	1. Birds noise	Sunny	Façade
UTP	11	48.2	60.0	57.0	Feb 3rd 2009	09:20-09:50	1. Excavator noise, 2 Boulder removing noise, 3 Boulder breaking noise	1. Birds noise, 2 Dog barking noise	Sunny	**Note 1*Free field**

Location		L90 30min	L10 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
Add hoc monitoring	9	59.3	76.7	73.5	**Feb 3rd 2009**	**15:00-15:30**	**1. Boulder removing noise, 2 Excavator noise**	**None**	**Sunny**	**Façade**

Note 1* An Additional of 3dB(A) had been added to the measurement result due to Free Field Location status

UTP note*2 UTP 9 Leq (30 min) measurement 78.8 dB(A) was over the limit of 75.0 dB(A) at 13:00pm. Therefore, an add hoc monitoring was conducted at 15:00pm on the same day. The second measurement for UTP 9 Leq (30min) was 73.5 dB(A).

Location		L90 30min	L10 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP	1	52.3	67.4	64.4	Feb 10th 2009	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	1 Traffic noise, 2 Public noise, 3 Water flowing noise	Sunny	Façade
UTP	2	44.7	54.0	51.8	Feb 11th 2009	11:15-11:45	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	1 Traffic noise	Sunny	Façade
UTP	3	44.8	52.3	49.7	Feb 10th 2009	16:10-16:40	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	1. Public noise, 2 Bird's noise, 3 Water flowing noise	Sunny	Façade
UTP	4	52.2	56.8	56.5	Feb 10th 2009	14:45-15:15	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	1 Traffic noise, 2 Public noise, 3 Water flowing noise, 4 Birds noise	Sunny	Façade
UTP	5	48.5	53.6	52.7	Feb 10th 2009	14:13-14:43	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	1 Public noise, 2 Traffic noise, 3 Water flowing noise	Sunny	Façade
UTP	6	46.5	55.6	53.4	Feb 10th 2009	10:52-11:22	1 Boulder breaking noise	1 Water flowing noise, 2 Birds noise, 3 Public noise	Sunny	Façade
UTP	7	46.3	53.0	51.4	Feb 10th 2009	11:25-11:55	1. Boulder breaking noise, 2 Boulder removing noise, 3 Excavator noise	1 Public noise, 2 Bird's noise	Sunny	Façade
UTP	8	49.8	70.8	68.8	Feb 10th 2009	13:38-14:08	1. Boulder breaking noise, 2 Boulder removing noise, 3 Excavator noise	1, Water flowing noise, 2 Birds noise, 3 Dog barking noise	Sunny	Façade
UTP	9	55.7	71.8	69.0	Feb 10th 2009	15:30-16:00	1. Boulder breaking noise, 2 Boulder removing noise, 3 Excavator noise	1. None	Sunny	Façade
UTP	10	58.1	74.6	70.1	Feb 10th 2009	10:16-10:46	1.Boulder breaking noise, 2 Boulder removing noise, 3 Excavator noise	1. Birds noise	Sunny	Façade
UTP	11	52.4	65.2	62.0	Feb 10th 2009	09:40-10:10	1. Boulder breaking noise, 2 Boulder removing noise, 3 Excavator noise	1. Birds noise, 2 Dog barking noise	Sunny	***Free field**

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

Location		L90 30min	L10 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP	1	58.2	70.1	68.3	Feb 17th 2009	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	1 Traffic noise, 2 Public noise, 3 Hand breaking noise from other construction activity	Cloudy	Façade
UTP	2	48.9	59.1	55.3	Feb 18th 2009	11:15-11:45	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	1 Traffic noise	Cloudy	Façade
UTP	3	46.3	58.2	54.9	Feb 17th 2009	16:10-16:40	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	1. Birds noise, 2 Public noise, 3 Water flowing noise	Cloudy	Façade
UTP	4	51.8	61.4	59.3	Feb 17th 2009	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	1 Traffic noise, 2 Public noise, 3 Water flowing noise	Cloudy	Façade
UTP	5	49.8	59.7	58.4	Feb 17th 2009	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	1 Public noise, 2 Traffic noise, 3 Water flowing noise, 4 Radio noise from local family	Cloudy	Façade
UTP	6	47.4	56.8	54.7	Feb 18th 2009	10:40-11:10	1 Boulder breaking noise	1 Water flowing noise, 2 Birds noise, 3 Public noise	Cloudy	Façade
UTP	7	47.9	57.9	55.2	Feb 17th 2009	10:50-11:20	1. Excavator noise, 2 Boulder removing noise	1 Public noise, 2 Birds noise, 3 Water flowing noise	Cloudy	Façade
UTP	8	50.3	64.0	62.2	Feb 17th 2009	14:10-14:40	1. Excavator noise, 2 Boulder breaking noise, 3 Boulder removing noise	1, Public noise	Cloudy	Façade
UTP	9	61.3	75.2	73.2	Feb 17th 2009	15:30-16:00	1. Excavator noise, 2 Boulder removing noise, 3 Boulder breaking noise	1. None	Cloudy	Façade
UTP	10	50.7	66.0	63.2	Feb 17th 2009	10:13-10:43	1.Excavator noise, 2 Boulder removing noise	1. Public noise, 2 Birds noise	Cloudy	Façade
UTP	11	45.6	54.0	50.8	Feb 17th 2009	9:39-10:09	1. Excavator noise, 2 Boulder removing noise	1. Birds noise	Cloudy	***Free field**

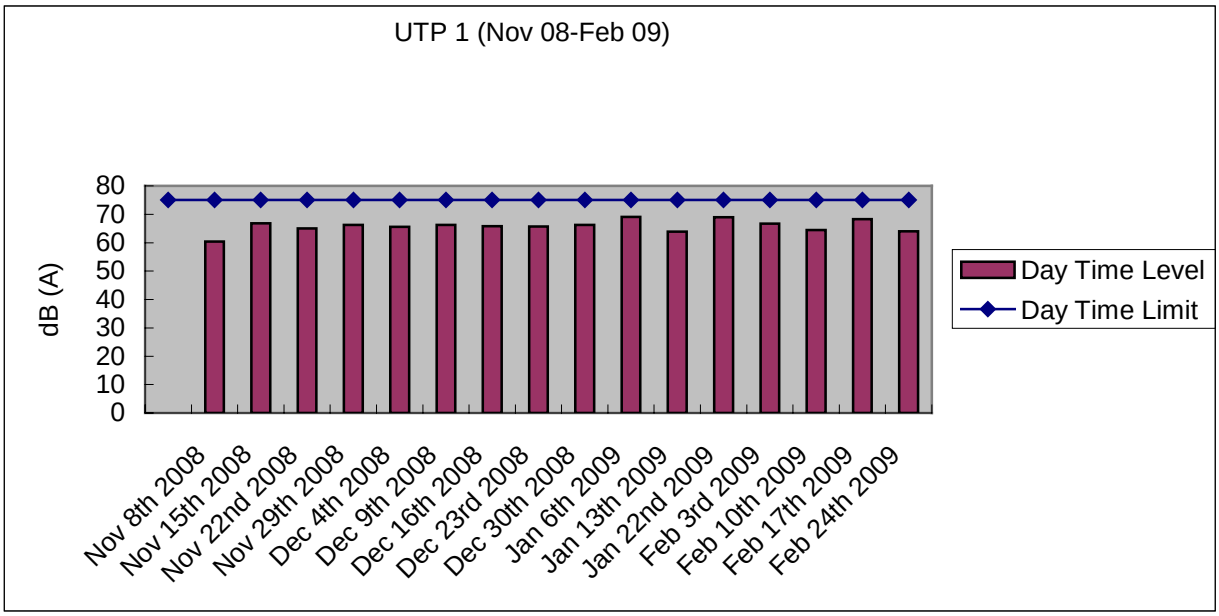
Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Location status

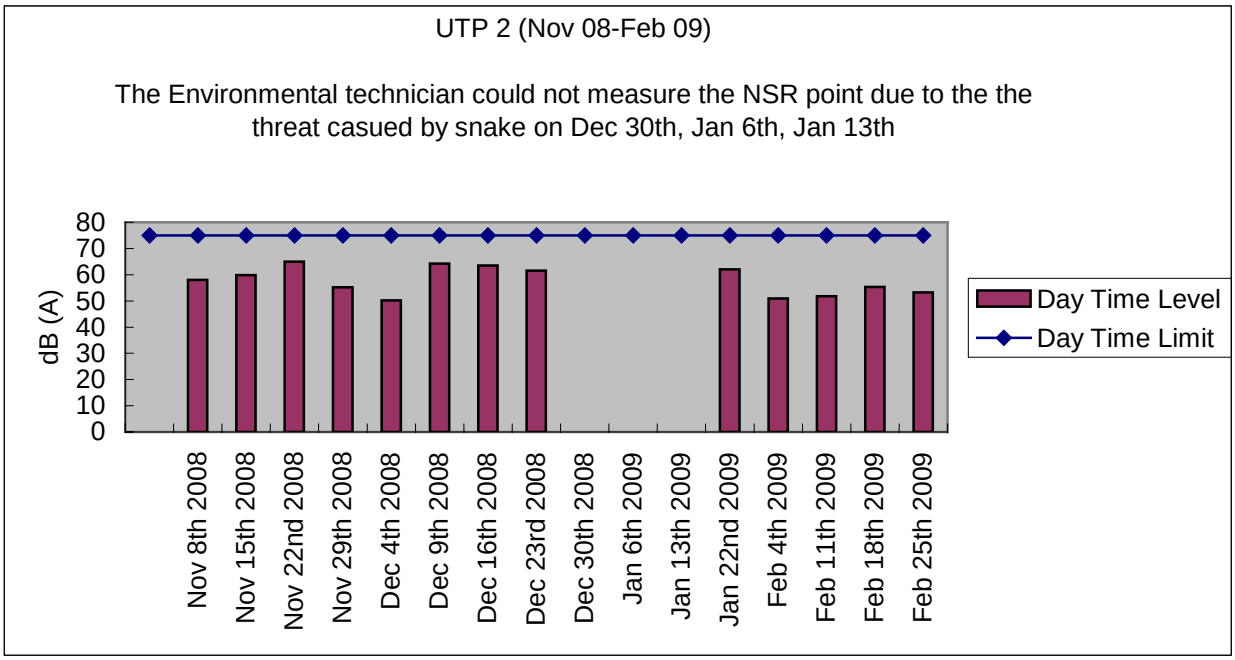
Location		L90 30min	L10 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP	1	53.0	65.1	64.0	Feb 24th 2009	13:00-13:30	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	1 Traffic noise, 2 Public noise, 3 Water flowing noise	Cloudy	Façade
UTP	2	49.7	57.4	53.3	Feb 25th 2009	9:50-10:20	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	1 Traffic noise	Cloudy	Façade
UTP	3	45.9	55.3	51.9	Feb 24th 2009	14:41-15:11	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	1. Public noise, 2 Birds noise	Cloudy	Façade
UTP	4	51.8	60.9	58.2	Feb 24th 2009	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	1 Traffic noise, 2 Public noise, 3 Birds noise, 4 Water flowing noise	Cloudy	Façade
UTP	5	48.6	54.7	53.4	Feb 24th 2009	14:08-14:38	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	1 Public noise, 2 Traffic noise, 3 Water flowing noise	Cloudy	Façade
UTP	6	47.8	69.2	64.7	Feb 24th 2009	10:45-11:15	1 Boulder breaking noise	1 Public noise, 2 Helicopter noise, 3 Water flowing noise	Cloudy	Façade
UTP	7	48.1	64.9	60.2	Feb 24th 2009	11:19-11:49	1 Boulder breaking noise, 2 Excavator noise	1 Public noise, 2 Helicopter noise	Cloudy	Façade
UTP	8	53.6	61.3	58.5	Feb 24th 2009	15:25-15:55	1 Excavator noise, 2 Boulder breaking noise	1, Public noise	Cloudy	Façade
UTP	9	54.0	66.9	66.5	Feb 24th 2009	16:25-16:55	1 Excavator noise, 2 Boulder breaking noise, 3 Boulder removing noise, 4 Concrete cutting noise	1. None	Cloudy	Façade
UTP	10	57.9	71.6	68.1	Feb 24th 2009	10:04-10:34	1. Excavator noise, 2 Boulder breaking noise, 3 Boulder removing noise, 4 Concrete cutting noise	1.Birds noise	Cloudy	Façade
UTP	11	52.1	61.9	58.6	Feb 24th 2009	9:30-10:00	1 Excavator noise, 2 Boulder breaking noise, 3 Boulder removing noise, 4 Concrete cutting noise	1 Birds noise, 2 Public noise	Cloudy	***Free field**

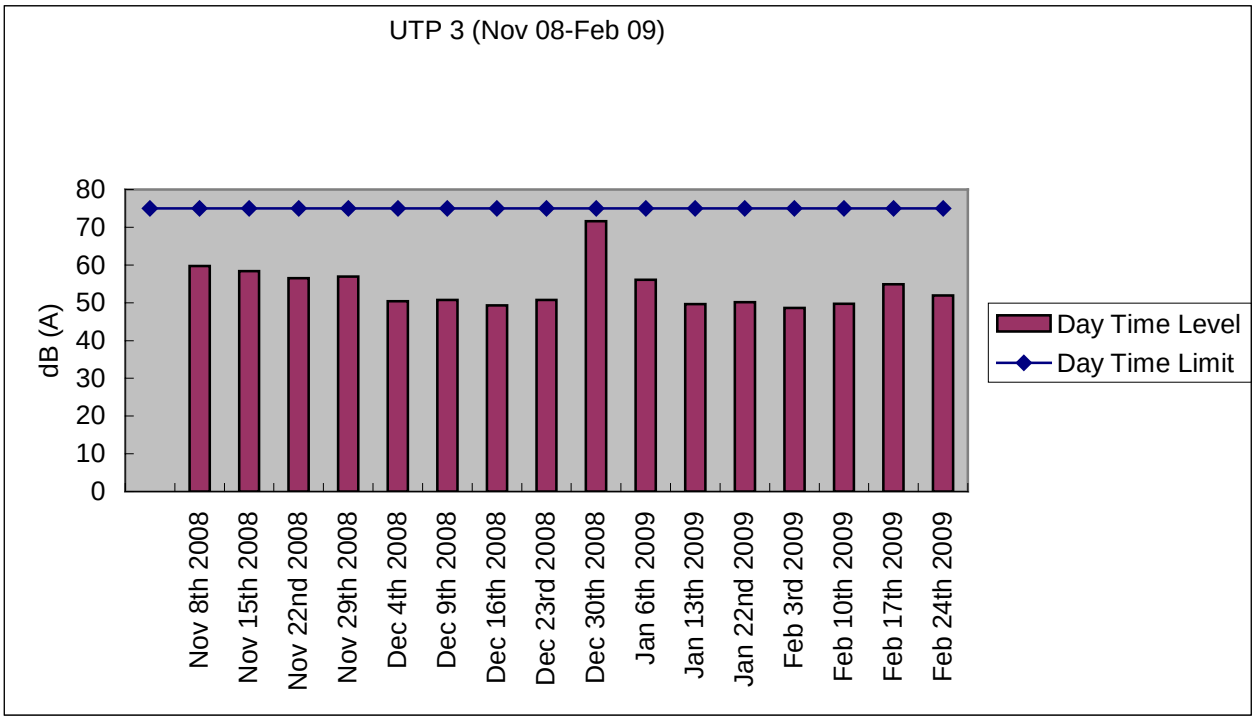
Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Location status

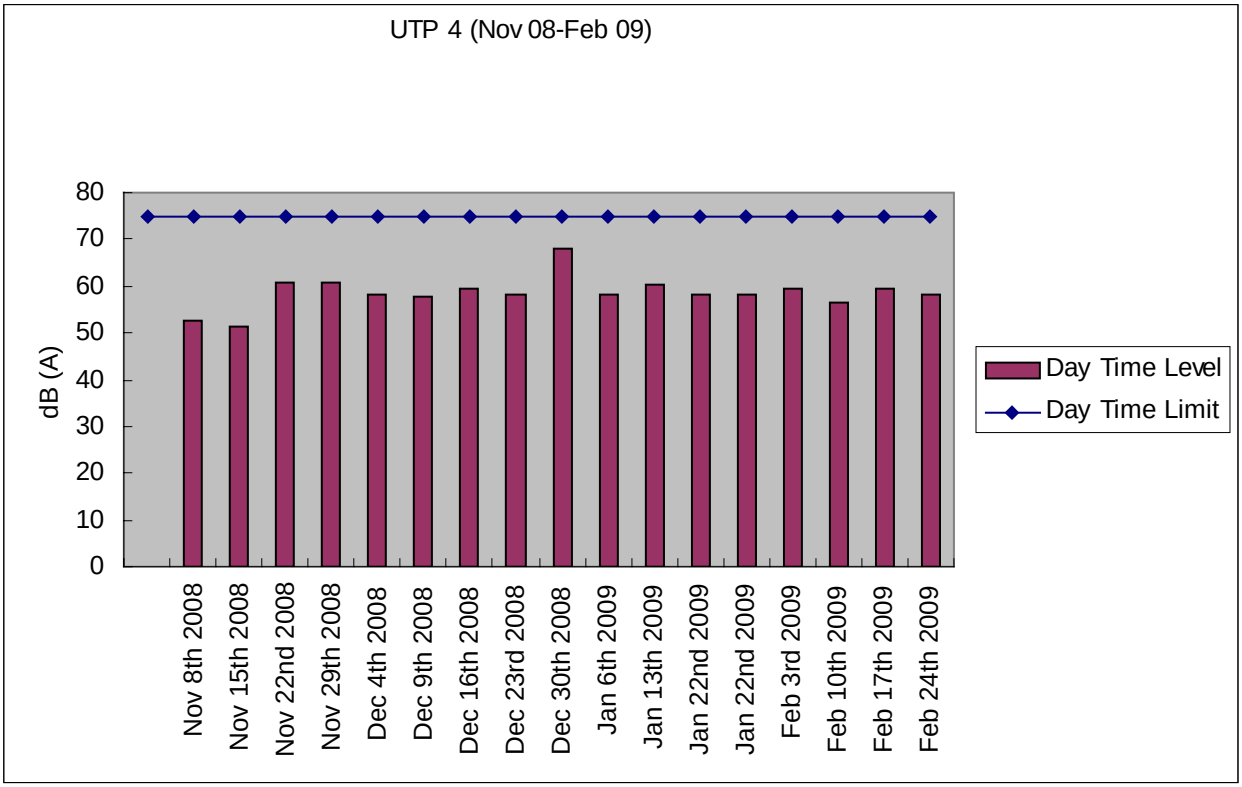
Graphical plot for noise measurements

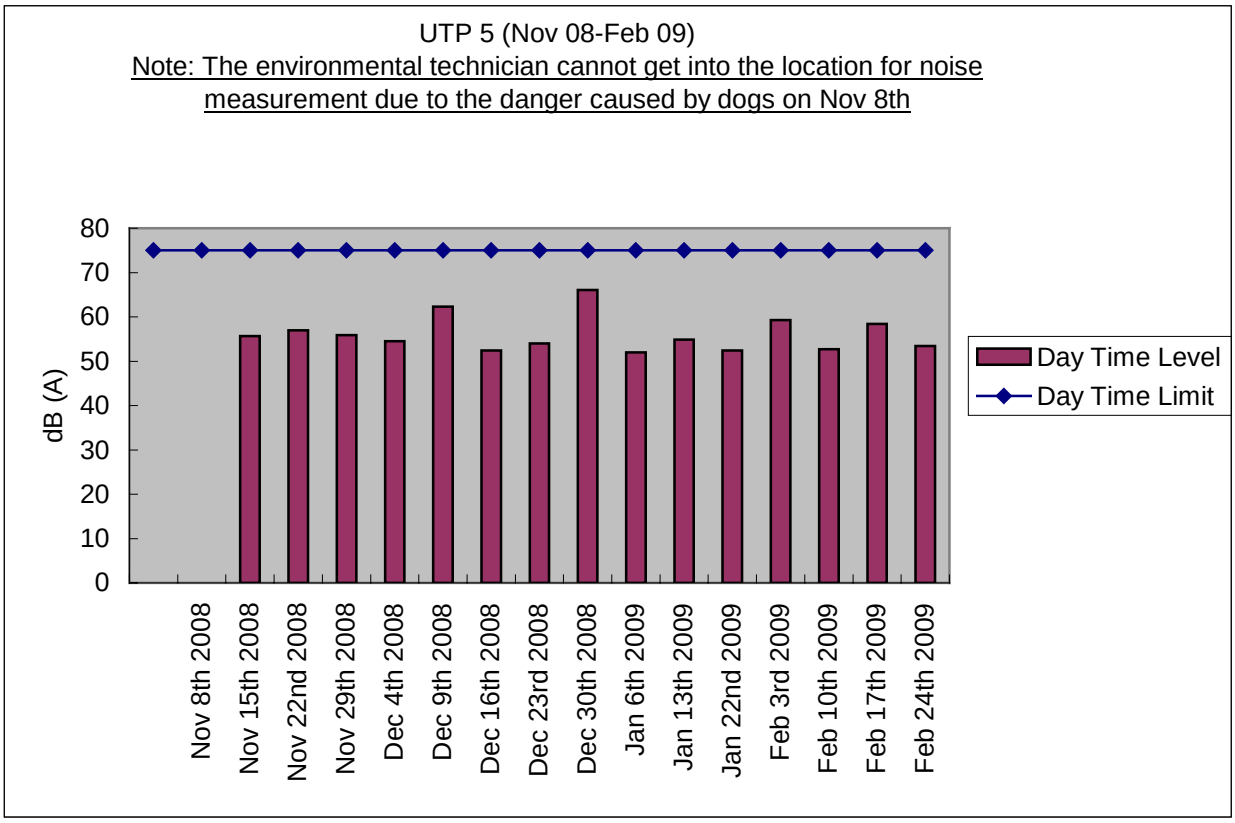
The following plots were the graphical plots for the 11 monitoring locations. Each plot showed the day time limit 75 dB(A), daytime level, date and the measured dB (A) results as in Leq 30min for each location. The graph contains the data recorded from Nov 2008 to Feb 2009

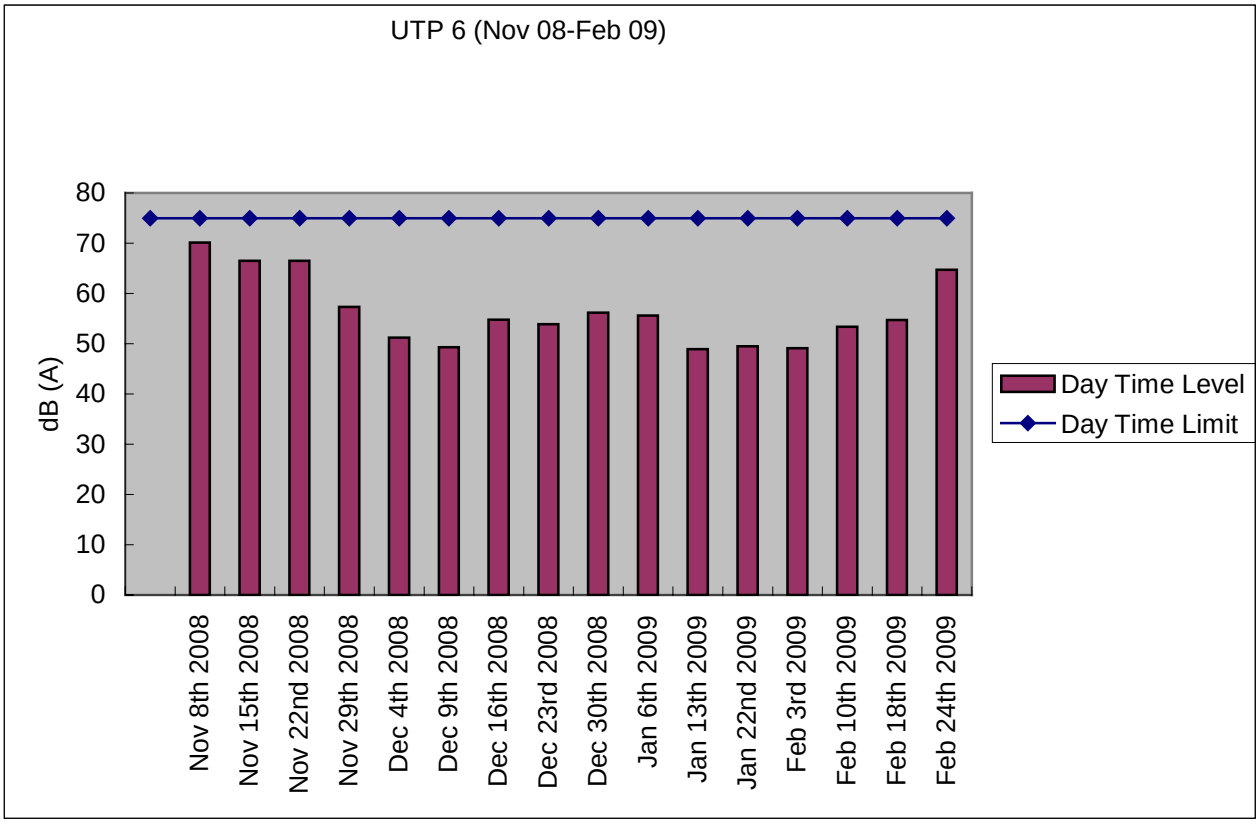


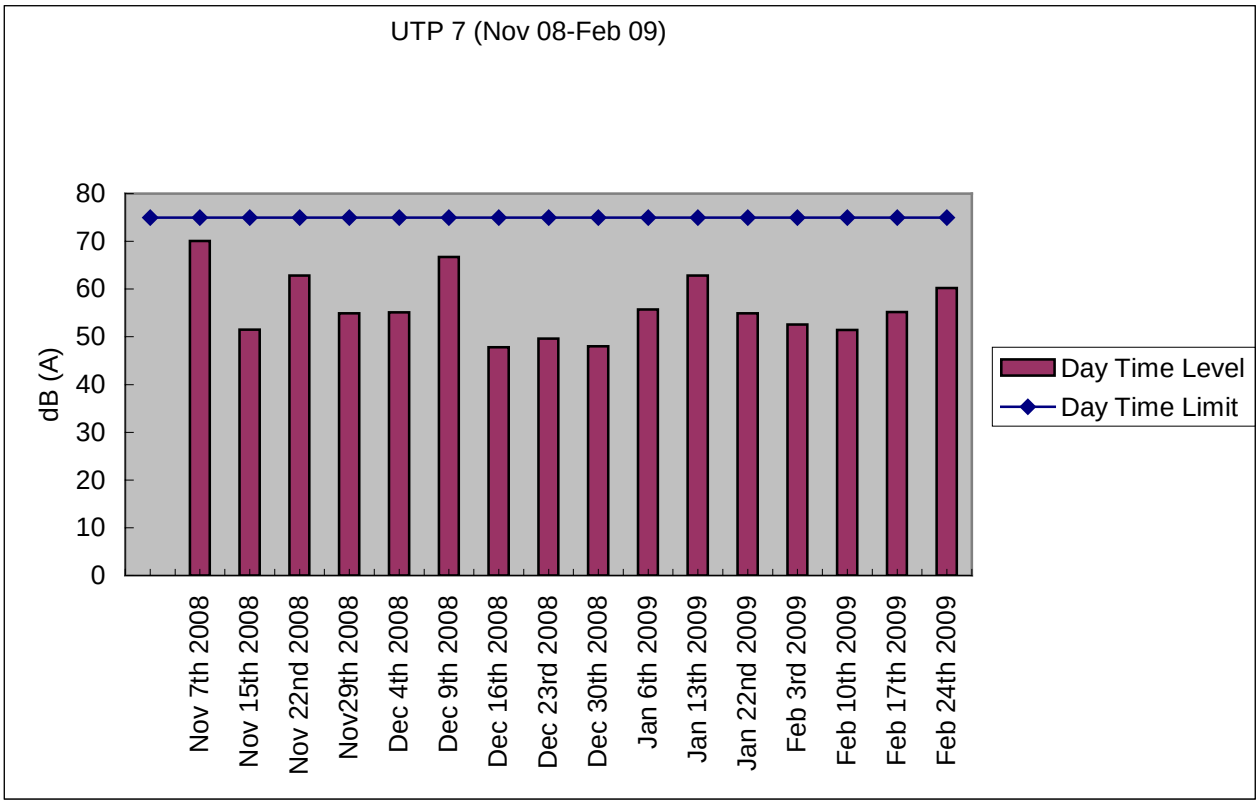


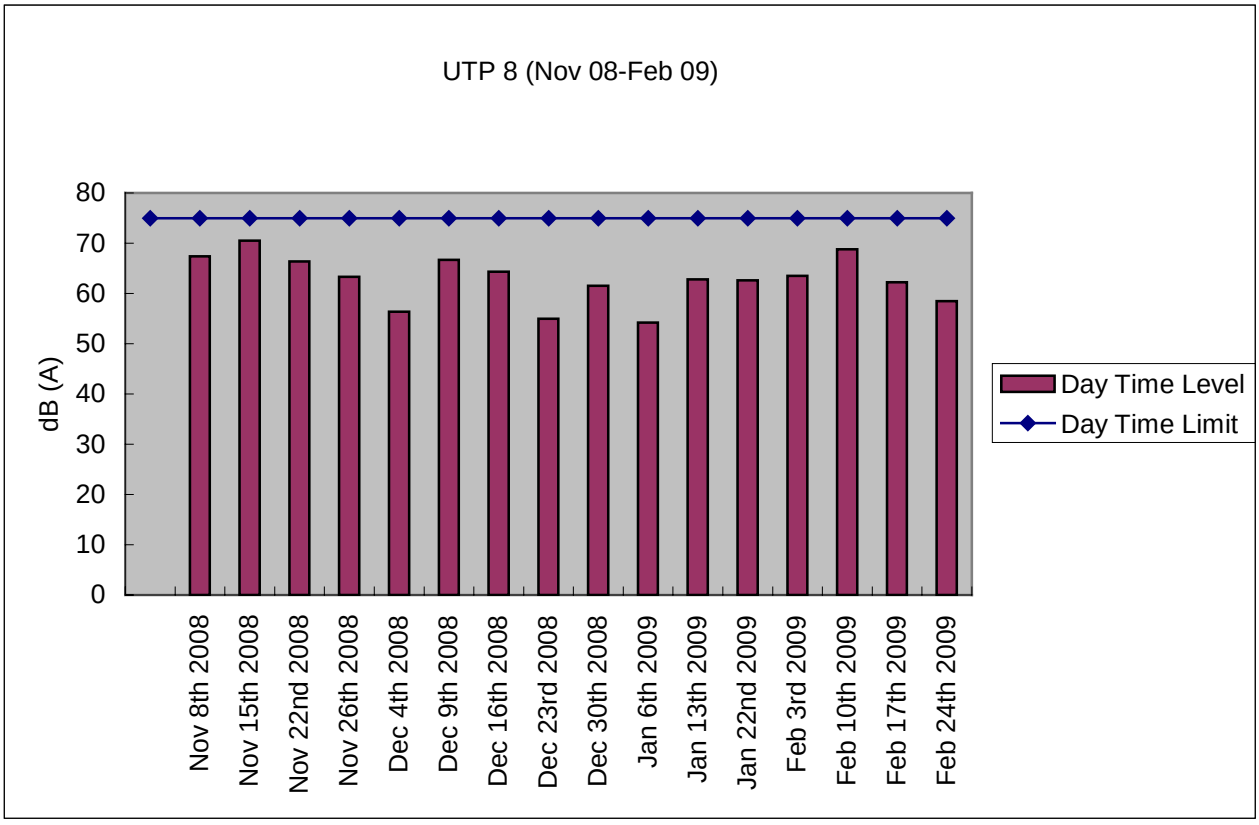

UTP 3 (Nov 08-Feb 09)
dB (A)
80
70
60
50
40
30
20
10
0
Nov 8th 2008
Nov 15th 2008
Nov 22nd 2008
Nov 29th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 17th 2009
Feb 24th 2009
Day Time Level
Day Time Limit

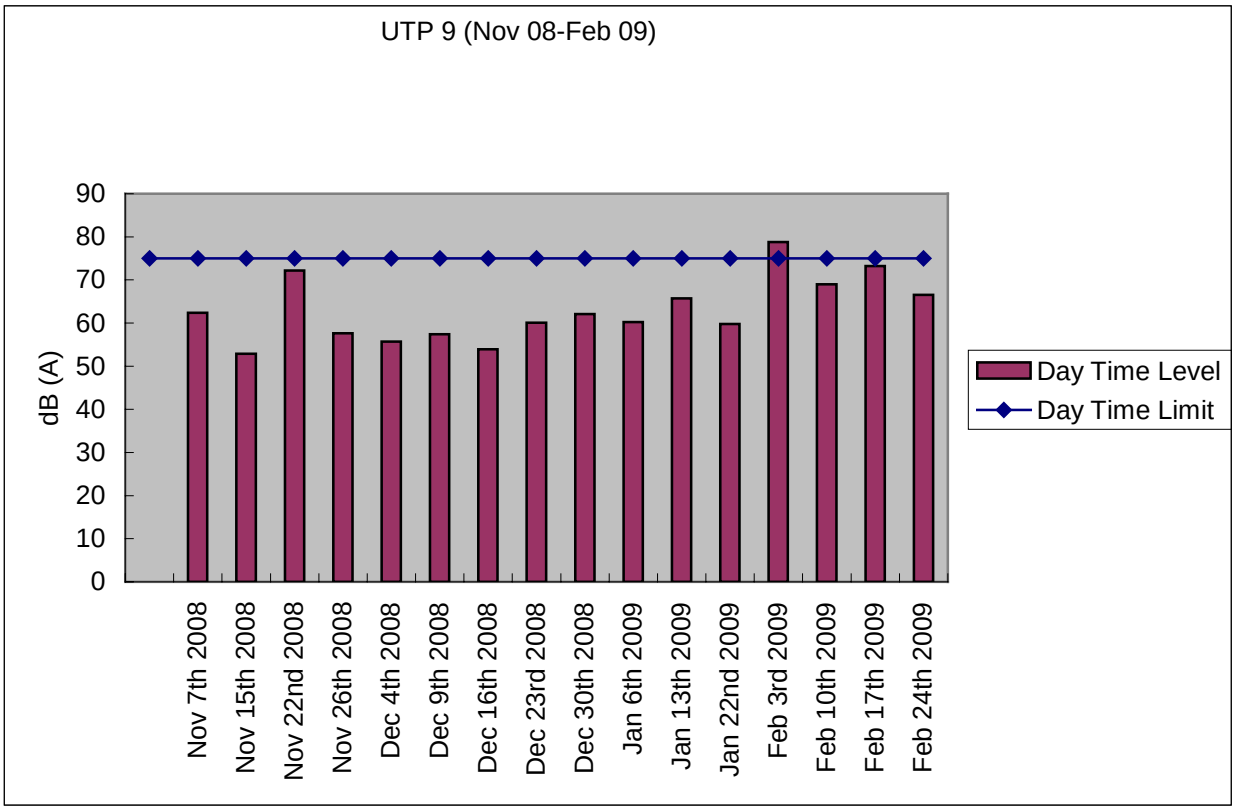

UTP 4 (Nov 08-Feb 09)
dB (A)
80
70
60
50
40
30
20
10
0
Nov 8th 2008
Nov 15th 2008
Nov 22nd 2008
Nov 29th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 17th 2009
Feb 24th 2009
Day Time Level
Day Time Limit

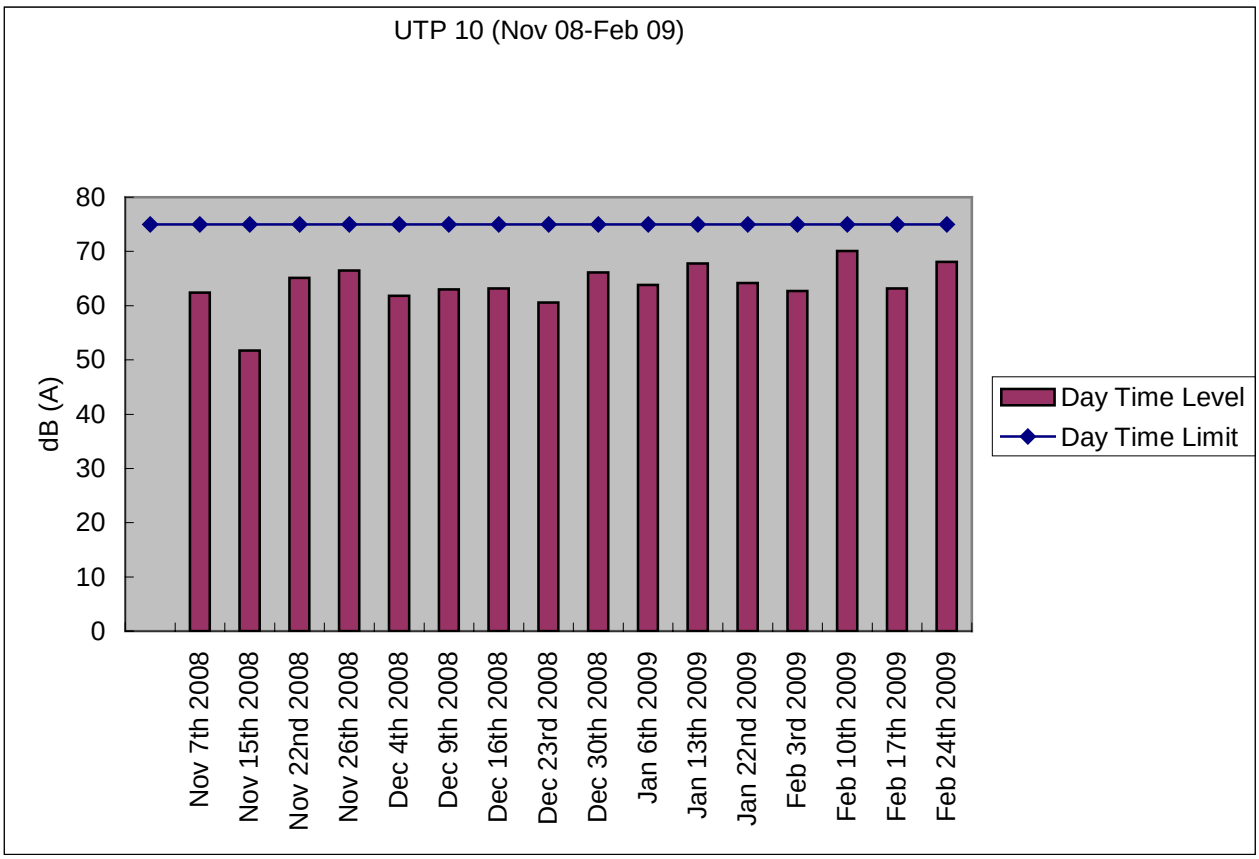

UTP 5 (Nov 08-Feb 09)
Note: The environmental technician cannot get into the location for noise measurement due to the danger caused by dogs on Nov 8th
dB (A)
0
10
20
30
40
50
60
70
80
Nov 8th 2008
Nov 15th 2008
Nov 22nd 2008
Nov 29th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 17th 2009
Feb 24th 2009
Day Time Level
Day Time Limit

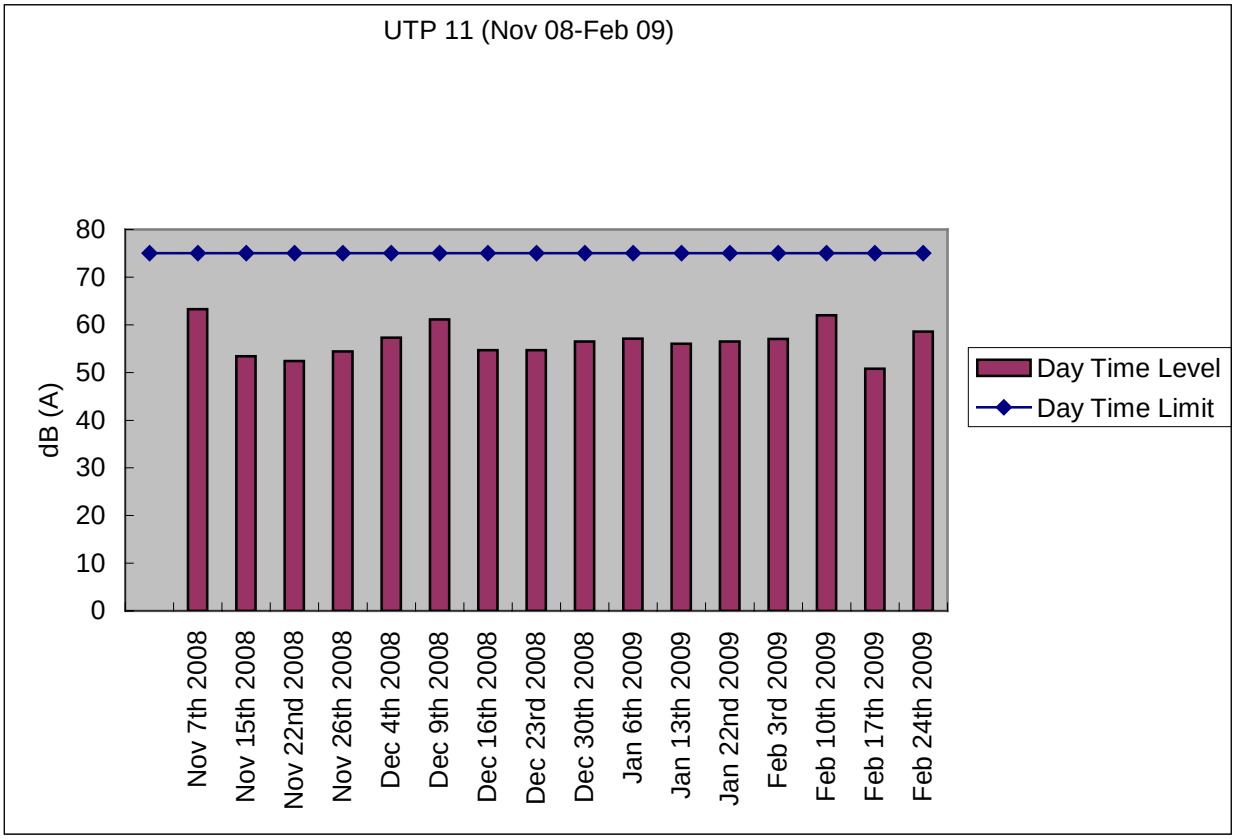

UTP 6 (Nov 08-Feb 09)
dB (A)
0
10
20
30
40
50
60
70
80
Nov 8th 2008
Nov 15th 2008
Nov 22nd 2008
Nov 29th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 18th 2009
Feb 24th 2009
Day Time Level
Day Time Limit


UTP 7 (Nov 08-Feb 09)
dB (A)
80
70
60
50
40
30
20
10
0
Nov 7th 2008
Nov 15th 2008
Nov 22nd 2008
Nov29th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 17th 2009
Feb 24th 2009
Day Time Level
Day Time Limit


UTP 8 (Nov 08-Feb 09)
dB (A)
80
70
60
50
40
30
20
10
0
Nov 8th 2008
Nov 15th 2008
Nov 22nd 2008
Nov 26th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 17th 2009
Feb 24th 2009
Day Time Level
Day Time Limit

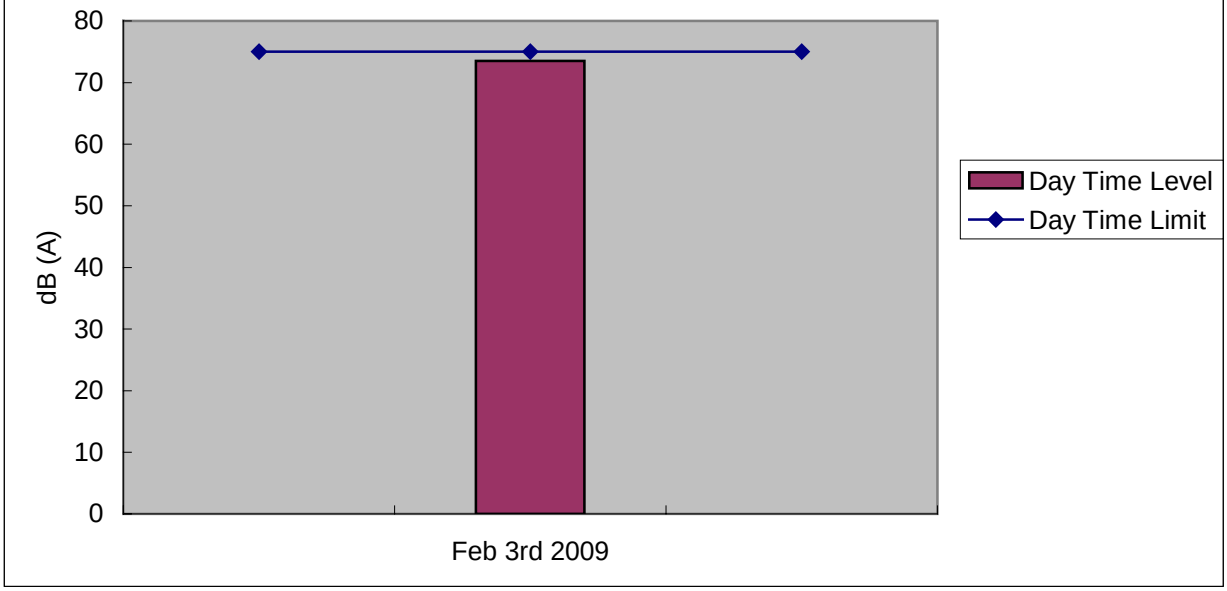

UTP 9 (Nov 08-Feb 09)
dB (A)
90
80
70
60
50
40
30
20
10
0
Nov 7th 2008
Nov 15th 2008
Nov 22nd 2008
Nov 26th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 17th 2009
Feb 24th 2009
Day Time Level
Day Time Limit

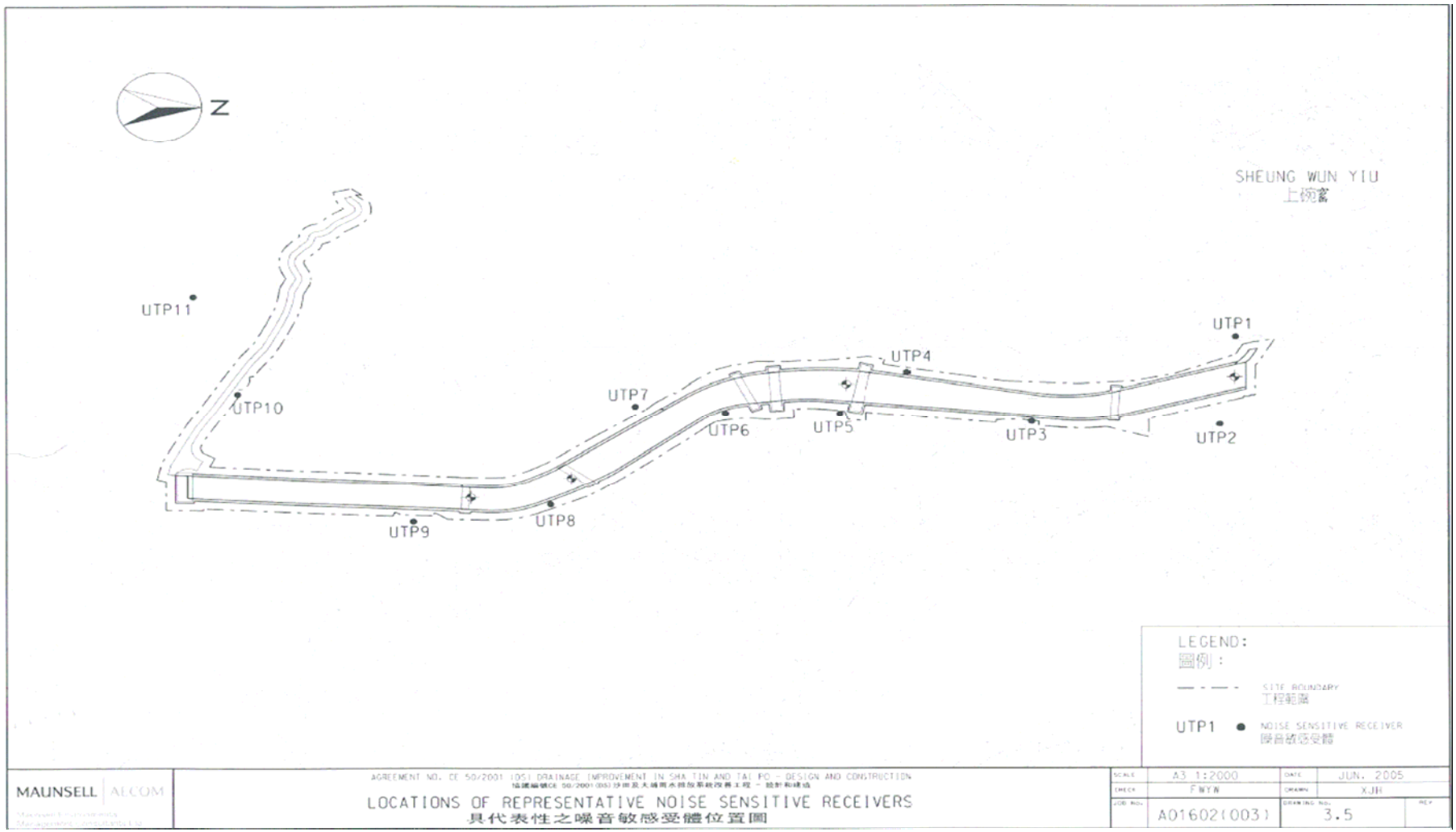

UTP 10 (Nov 08-Feb 09)
dB (A)
80
70
60
50
40
30
20
10
0
Nov 7th 2008
Nov 15th 2008
Nov 22nd 2008
Nov 26th 2008
Dec 4th 2008
Dec 9th 2008
Dec 16th 2008
Dec 23rd 2008
Dec 30th 2008
Jan 6th 2009
Jan 13th 2009
Jan 22nd 2009
Feb 3rd 2009
Feb 10th 2009
Feb 17th 2009
Feb 24th 2009
Day Time Level
Day Time Limit



ADD HOC MONITORING RESULT FOR UTP 9

Add-hoc monitoring was conducted (73.5 dB(A)) at UTP 9 on Feb 3rd 2009 at 15:00pm due to the exccedance recorded (78.8 dB(A)) at UTP 9 on Feb 3rd 2009 at 13:00pm.




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
AGREEMENT NO. CE 50/2001 (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. A016021003
DRAWING NO. 3.5
REV.

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

Master schedule of EM&A works in February 2009

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

Master schedule of EM&A works in March 2009

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

Appendix F: Cumulative complaint log

Environmental Parameters	Cumulative no. Brought forward	No. of complaint February 2009	Overall Total
Air/Dust	1	0	1
Noise	0	0	0
Water	2	0	2
House Keeping Hygiene	0	0	0
Chemical waste	0	0	0
Total	3	0	3

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	Improvement required	To be followed up
	-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	Improvement required	To be followed up
	-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	Implemented	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	Implemented	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	Improvement required	To be followed up
	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	Improvement required	To be followed up
	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	Improvement required	To be followed up
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

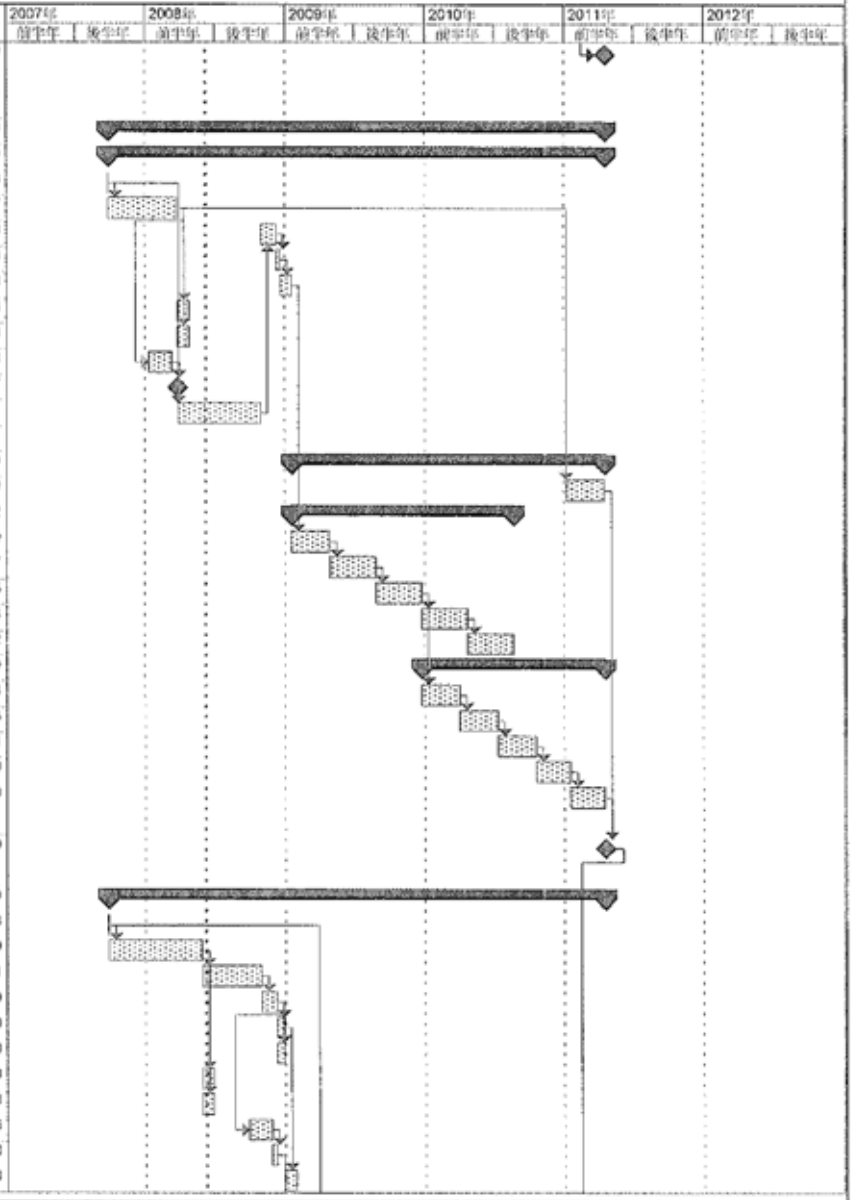
Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
September 2008	0	0	0
October 2008	0	2 tonnes	0
November 2008	$36m^3$	0	0
December 2008	0	0	0
January 2009	0	0	0
February 2009	0	0	0
Total	$36m^3$	2 tonnes	0

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

	Task Name					
654	Completion of Work at Section 2	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
655						
656						
657	**Section 3 - Upper Tai Po River (Area L, N & P)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
658	**Section 3 - Upper Tai Po River (Area L)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
659	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28
660	Possession to Portion of the Site (Area L)	181 days	2007/9/29	2008/3/27	2007/9/29	2008/3/27
661	Temp. Site Access	40 days	2008/11/1	2008/12/10	2008/11/1	2008/12/10
662	Site Clearance	10 days	2008/12/11	2008/12/20	2008/12/11	2008/12/20
663	Chainlink Fencing Work / Hoarding	30 days	2008/12/21	2009/1/19	2008/12/21	2009/1/19
664	Initial Survey	30 days	2008/3/28	2008/4/26	2008/3/28	2008/4/26
665	Condition Surveys / Set up markers	30 days	2008/3/28	2008/4/26	2008/3/28	2008/4/26
666	Preparation of Temporary Works Design	60 days	2008/1/14	2008/3/13	2008/1/14	2008/3/13
667	Approval of Temporary Works Design	0 days	2008/3/27	2008/3/27	2008/3/27	2008/3/27
668	Wet Season (April to Oct 2008)	214 days	2008/4/1	2008/10/31	2008/4/1	2008/10/31
669						
670	**Chainage from CH 0 to CH130**	**820 days**	**2009/1/20**	**2011/4/19**	**2009/1/20**	**2011/4/19**
671	Access to the Site	100 days	2011/1/10	2011/4/19	2011/1/10	2011/4/19
672	**Boulder Trap**	**580 days**	**2009/1/20**	**2010/8/22**	**2009/1/20**	**2010/8/22**
673	Excavation	100 days	2009/1/20	2009/4/29	2009/1/20	2009/4/29
674	Rockfill & Blinding Layer	120 days	2009/4/30	2009/8/27	2009/4/30	2009/8/27
675	Base Slab Structure	120 days	2009/8/28	2009/12/25	2009/8/28	2009/12/25
676	Wall Structure	120 days	2009/12/26	2010/4/24	2009/12/26	2010/4/24
677	Cut/Fill Slope	120 days	2010/4/25	2010/8/22	2010/4/25	2010/8/22
678	**Footbridge, Platform and Fill Slope**	**480 days**	**2009/12/26**	**2011/4/19**	**2009/12/26**	**2011/4/19**
679	Footing for footbridge	100 days	2009/12/26	2010/4/4	2009/12/26	2010/4/4
680	Gabion Wall	100 days	2010/4/5	2010/7/13	2010/4/5	2010/7/13
681	Footbridge (TB1)	100 days	2010/7/14	2010/10/21	2010/7/14	2010/10/21
682	Platform & Fill Slope & Maintenance stairway	90 days	2010/10/22	2011/1/19	2010/10/22	2011/1/19
683	Footpaths	90 days	2011/1/20	2011/4/19	2011/1/20	2011/4/19
684						
685	Completion of Area L	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
686						
687	**Section 3 - Upper Tai Po River (Area P)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
688	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28
689	Possession to Portion of the Site (Area P)	244 days	2007/9/29	2008/5/29	2007/9/29	2008/5/29
690	Wet Season	155 days	2008/5/30	2008/10/31	2008/5/30	2008/10/31
691	Temp. Site Access	40 days	2008/11/1	2008/12/10	2008/11/1	2008/12/10
692	Site Clearance	20 days	2008/12/11	2008/12/30	2008/12/11	2008/12/30
693	Chainlink Fencing Work	20 days	2008/12/11	2008/12/30	2008/12/11	2008/12/30
694	Initial Survey	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/29
695	Condition Surveys / Set up markers	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
696	Preparation of Temporary Works Design	60 days	2008/9/29	2008/11/26	2008/9/28	2008/11/26
697	Approval of Temporary Works Design	14 days	2008/11/27	2008/12/10	2008/11/27	2008/12/10
698	S.I. Works	30 days	2008/12/31	2009/1/29	2008/12/31	2009/1/29



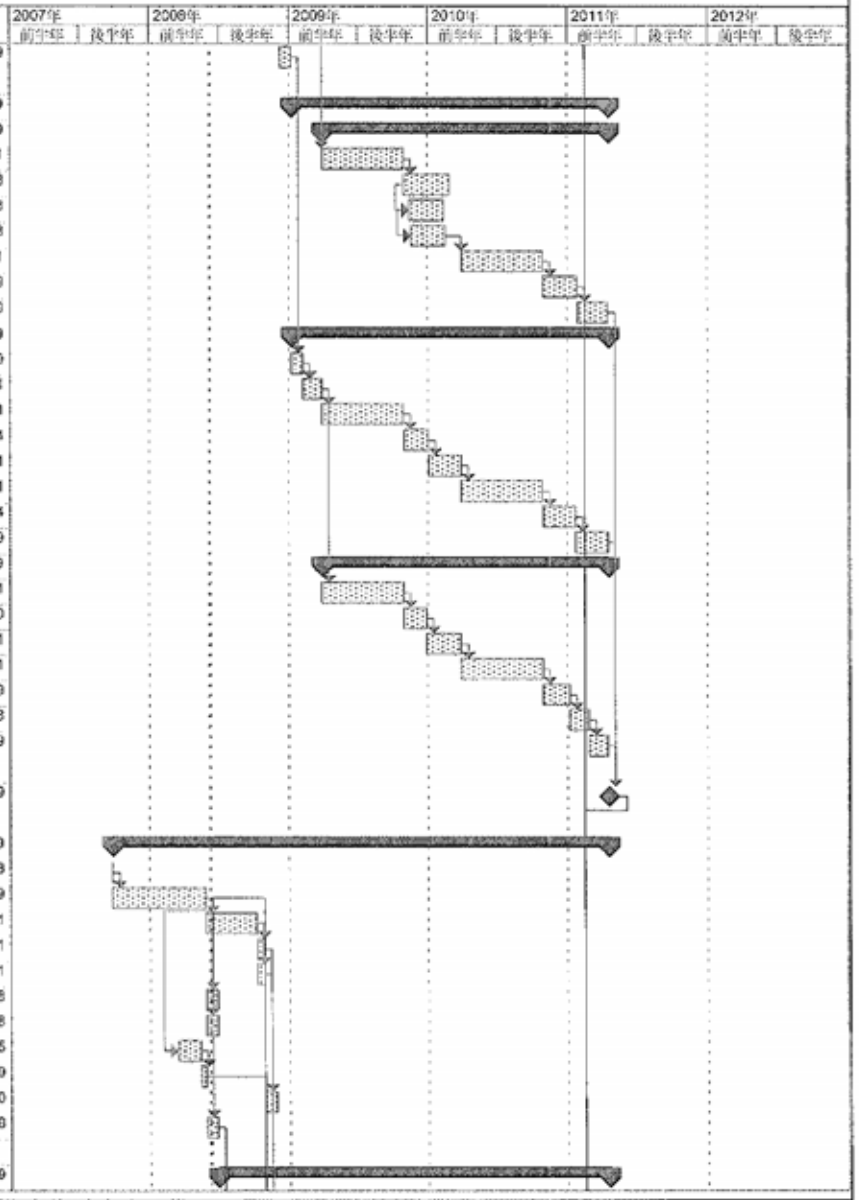
Project: Master Programme (REV.5)
Data Date: Jun 2008
Consultant: MCAL

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	開始時間	完成時間
699	Temp. Shoring Works	30 days	2008/12/11	2009/1/9	2008/12/11	2009/1/9
700						
701	**Chainage from CHL 250 to CHL 130**	**830 days**	**2009/1/10**	**2011/4/19**	**2009/1/10**	**2011/4/19**
702	**From CHL 250 to CHL 130**	**749 days**	**2009/4/1**	**2011/4/19**	**2009/4/1**	**2011/4/19**
703	Wet Season (April to Oct 2009)	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
704	Excavation	120 days	2009/11/1	2010/2/28	2009/11/1	2010/2/28
705	Rockfill & Blinding	90 days	2009/11/16	2010/2/13	2009/11/16	2010/2/13
706	Base Slab Structure	90 days	2009/11/21	2010/2/18	2009/11/21	2010/2/18
707	Wet Season (April to Oct 2010)	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
708	Wall Structure	90 days	2010/11/1	2011/1/29	2010/11/1	2011/1/29
709	Gabion Wall	80 days	2011/1/30	2011/4/19	2011/1/30	2011/4/19
710	**Footbridge, Platform and Cut/Fill Slope**	**830 days**	**2009/1/10**	**2011/4/19**	**2009/1/10**	**2011/4/19**
711	Demolition of existing structure	31 days	2009/1/10	2009/2/9	2009/1/10	2009/2/9
712	Footing for Footbridge (TB3)	50 days	2009/2/10	2009/3/31	2009/2/10	2009/3/31
713	Wet Season	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
714	Dwarf Wall	65 days	2009/11/1	2010/1/4	2009/11/1	2010/1/4
715	Footbridge (TB3)	86 days	2010/1/5	2010/3/31	2010/1/5	2010/3/31
716	Wet Season	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
717	Platform & Cut/Fill Slope & Maintenance Stairway	65 days	2010/11/1	2011/1/24	2010/11/1	2011/1/24
718	Footpaths	85 days	2011/1/25	2011/4/19	2011/1/25	2011/4/19
719	**Footbridge, Platform and Cut/Fill Slope**	**749 days**	**2009/4/1**	**2011/4/19**	**2009/4/1**	**2011/4/19**
720	Wet Season	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
721	Footing for Footbridge (TB2)	60 days	2009/11/1	2009/12/30	2009/11/1	2009/12/30
722	Dwarf Wall	91 days	2009/12/31	2010/3/31	2009/12/31	2010/3/31
723	Wet Season	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
724	Footbridge (TB2)	70 days	2010/11/1	2011/1/9	2010/11/1	2011/1/9
725	Platform & Cut/Fill Slope & Maintenance Stairway	50 days	2011/1/10	2011/2/28	2011/1/10	2011/2/28
726	Footpaths	50 days	2011/3/1	2011/4/19	2011/3/1	2011/4/19
727						
728	Completion of Area P	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
729						
730	**Section 3 - Upper Tai Po River (Area N)**	**1300 days**	**2007/9/28**	**2011/4/19**	**2007/9/28**	**2011/4/19**
731	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28
732	Possession to Portion of the Site (Area N)	244 days	2007/9/29	2008/5/29	2007/9/29	2008/5/29
733	Temp. Site Access (XP/TTA)	135 days	2008/5/30	2008/10/11	2008/5/30	2008/10/11
734	Site Clearance	20 days	2008/10/12	2008/10/31	2008/10/12	2008/10/31
735	Chainlink Fencing Work	20 days	2008/10/12	2008/10/31	2008/10/12	2008/10/31
736	Initial Survey	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
737	Condition Surveys / Set up markers	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
738	Preparation of Temporary Works Design	60 days	2008/3/17	2008/5/15	2008/3/17	2008/5/15
739	Approval of Temporary Works Design	14 days	2008/5/16	2008/5/29	2008/5/16	2008/5/29
740	S.I. Works	30 days	2008/11/1	2008/11/30	2008/11/1	2008/11/30
741	Temp. Shoring Works	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28
742						
743	**Chainage from CHL 230 to CHL 600**	**1025 days**	**2008/6/29**	**2011/4/19**	**2008/6/29**	**2011/4/19**



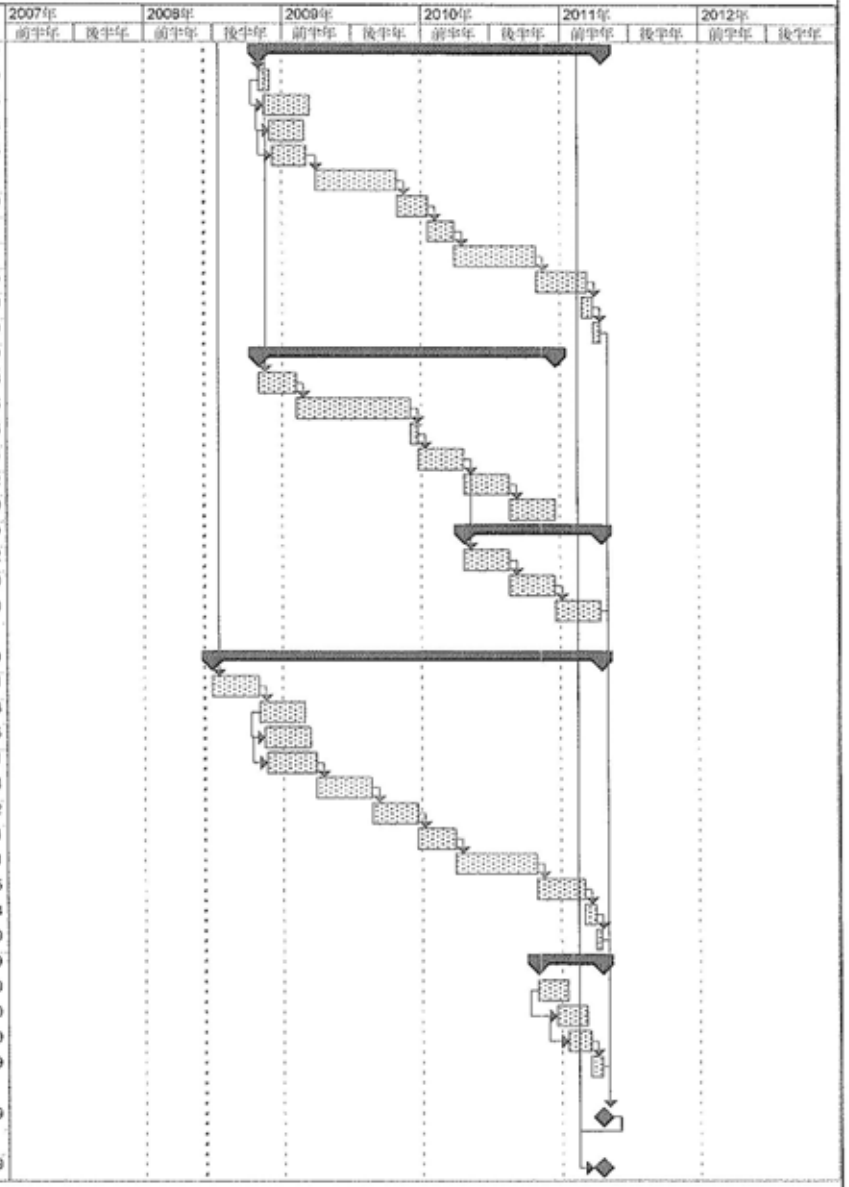
Project: Master Programme (REV.5)
Data Date: Jun 2006
Consultant: MCAL

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	開始時間	完成時間
744	**From CHL 230 to CHL 380**	**900 days**	**2008/11/1**	**2011/4/19**	**2008/11/1**	**2011/4/19**
745	Temp. Shoring Works	30 days	2008/11/1	2008/11/30	2008/11/1	2008/11/30
746	Excavation	120 days	2008/11/16	2009/3/15	2008/11/16	2009/3/15
747	Rockfill & Blinding	90 days	2008/12/1	2009/2/28	2008/12/1	2009/2/28
748	Base Slab Structure	90 days	2008/12/6	2009/3/5	2008/12/6	2009/3/5
749	Wet Season (April to Oct 2009)	214 days	2009/4/1	2009/10/31	2009/4/1	2009/10/31
750	Wall Structure	80 days	2009/11/1	2010/1/19	2009/11/1	2010/1/19
751	Gabion Wall	71 days	2010/1/20	2010/3/31	2010/1/20	2010/3/31
752	Wet Season (April to Oct 2010)	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
753	Footbridge (TB4 & TB5)	135 days	2010/11/1	2011/3/15	2010/11/1	2011/3/15
754	Dwarf Wall	30 days	2011/3/1	2011/3/30	2011/3/1	2011/3/30
755	Demolition of Existing Footbridge	20 days	2011/3/31	2011/4/19	2011/3/31	2011/4/19
756	**Construction of Retaining Wall (TR5)**	**780 days**	**2008/11/1**	**2010/12/20**	**2008/11/1**	**2010/12/20**
757	Cut Rock Slope	100 days	2008/11/1	2009/2/8	2008/11/1	2009/2/8
758	Pre-bored H-Pile (76 Nos)	300 days	2009/2/9	2009/12/5	2009/2/9	2009/12/5
759	Loading test for piles	20 days	2009/12/6	2009/12/25	2009/12/6	2009/12/25
760	Excavation	120 days	2009/12/26	2010/4/24	2009/12/26	2010/4/24
761	Base Slab	120 days	2010/4/25	2010/8/22	2010/4/25	2010/8/22
762	Wall Stem	120 days	2010/8/23	2010/12/20	2010/8/23	2010/12/20
763	**Construction of Retaining Wall (TR4)**	**360 days**	**2010/4/25**	**2011/4/19**	**2010/4/25**	**2011/4/19**
764	Excavation	120 days	2010/4/25	2010/8/22	2010/4/25	2010/8/22
765	Base Slab	120 days	2010/8/23	2010/12/20	2010/8/23	2010/12/20
766	Wall Stem	120 days	2010/12/21	2011/4/19	2010/12/21	2011/4/19
767						
768	**From CH380 to CH530**	**1025 days**	**2008/6/29**	**2011/4/19**	**2008/6/29**	**2011/4/19**
769	Wet Season (April to Oct 2009)	125 days	2008/6/29	2008/10/31	2008/6/29	2008/10/31
770	Excavation	120 days	2008/11/1	2009/2/28	2008/11/1	2009/2/28
771	Rockfill & Blinding	120 days	2008/11/16	2009/3/15	2008/11/16	2009/3/15
772	Base Slab Structure	131 days	2008/11/21	2009/3/31	2008/11/21	2009/3/31
773	Wet Season (April to Oct 2010)	146 days	2009/4/1	2009/8/24	2009/4/1	2009/8/24
774	Wall Structure	120 days	2009/8/25	2009/12/22	2009/8/25	2009/12/22
775	Gabion Wall	99 days	2009/12/23	2010/3/31	2009/12/23	2010/3/31
776	Wet Season	214 days	2010/4/1	2010/10/31	2010/4/1	2010/10/31
777	Footbridge (TB6 & TB7)	125 days	2010/11/1	2011/3/5	2010/11/1	2011/3/5
778	Dwarf Wall	30 days	2011/3/6	2011/4/4	2011/3/6	2011/4/4
779	Demolition of Existing Footbridge	15 days	2011/4/5	2011/4/19	2011/4/5	2011/4/19
780	**Footbridge, Platform and Cut/Fill Slope**	**170 days**	**2010/11/1**	**2011/4/19**	**2010/11/1**	**2011/4/19**
781	Platform & Cut/Fill Slope & Maintenance Stairway	80 days	2010/11/1	2011/1/19	2010/11/1	2011/1/19
782	Footpaths	80 days	2010/12/21	2011/3/10	2010/12/21	2011/3/10
783	Box Culverts	60 days	2011/1/20	2011/3/20	2011/1/20	2011/3/20
784	Construct Cascade	30 days	2011/3/21	2011/4/19	2011/3/21	2011/4/19
785						
786	Completion of Area N	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19
787						
788	Completion of Work at Section 3	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19



Project: Master Programme (REV.6)
Data Date: Jun 2008
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

Appendix J: Template for interim notification of environmental quality limits exceedance

TEMPLATE FOR INTERIM NOTIFICATION OF

ENVIRONMENTAL QUALITY LIMITS EXCEEDANCE

Project	DC/2007/06
Date	February 3rd 2009
Time	13:00 – 13:30, re-measurement at 15:00 – 15:30
Monitoring Location	UTP 9
Parameter	Noise, $L_{eq\ (30min)}$
Action & Limit Levels	$L_{eq\ (30min)}$ 75.0dB(A) (Limit Level)
Measured Level	$L_{eq\ (30min)}$ 78.8dB(A)
Possible reason for Action or Limit Exceedance	Noise exceedance was mainly due to the construction works of continuous boulder breaking, excavation and boulder removing on Feb 3rd 2009 at 13:00pm.
Actions taken / to be taken	Contractor took action immediately by stopping the construction work of continuous boulder breaking between works period. An ad-hoc measurement was conducted by the E.T for the noise exceedance location UTP 9 on the same day February 3rd 2009 at 15:00pm. The result of $L_{eq\ (30min)}$ was 73.5dB(A), which was below of the limit level.
Remarks	The above incident was informed to relevant parties included RE, IEC and Contractor on the same day by E-mail. As no further exceedance was recorded in the re-measurement, no further action was taken as agreed by the parties.

	Name	Signature	Date
Prepared By:	Stephen Tsang		3-2-2009