

Issue No. : 2
Issue Date : Mar 2010
Project No. : 944

**CONSTRUCTION OF A
SECONDARY BOUNDARY FENCE
AND NEW SECTION OF PRIMARY
BOUNDARY FENCE AND
BOUNDARY PATROL ROAD
(SECTION 2 LOK MA CHAU
CONTROL POINT TO NG TUNG
RIVER)**

**BASELINE ENVIRONMENTAL
MONITORING REPORT**

Prepared By:

ALLIED ENVIRONMENTAL CONSULTANTS LTD.

COMMERCIAL-IN-CONFIDENCE

Ref.: ASDBFBPREM00_0_0043L 10

13 April 2010

Mott MacDonald Hong Kong Limited
7/F West Wing Office Building,
New World Centre,
20 Salisbury Road,
Tsim Sha Tsui,
Kowloon, Hong Kong

By Fax (2827 1823) and Post

Attention: Mr. Taj Ishola / Mr. Danny Wong

Dear Sirs,

**Re: Environmental Permit No. EP-347/2009 and FEP-02/347/2009
Contract No. SSW306 - Section 2
Construction of a Secondary Boundary Fence and New Section of Primary
Boundary Fence and Boundary Patrol Road from Lok Ma Chau Control
Point to Ng Tung River
Baseline Environmental Monitoring Report (Issue No. 2)**

Reference is made to the Environmental Team's submission of the draft Baseline Environmental Monitoring Report for the captioned by E-mail on 1 April 2010, and the submission of the revised report by E-mail on 12 April 2010 (Issue No. 2).

We are pleased to inform you that we have no further comments on the revised Baseline Environmental Monitoring Report (Issue No. 2) received by E-mail on 12 April 2010. We write to verify that the captioned submission complied with the requirements as set out in the EM&A Manual.

Thank you for your attention and please feel free to contact the undersigned should you have any queries.

Yours faithfully,



David Yeung
Independent Environmental Checker

c.c. ArchSD Attn: Ms. Peggy Yu
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Certified by: _____
Grace Kwok
Environmental Team Leader

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This report has been prepared by Allied Environmental Consultants Limited with all reasonable skill, care and diligence within the terms of the Agreement with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road
(Section 2 Lok Ma Chau Control Point to Ng Tung River)

Baseline Monitoring Report

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AIM

This report presents the results of the baseline noise monitoring conducted for the Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road Section 2 Lok Ma Chau Control Point to Ng Tung River (the “Project”) and the Action and Limit Levels for noise quality monitoring during the construction period.

EXECUTIVE SUMMARY

Baseline noise monitoring for the Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road Section 2 Lok Ma Chau Control Point to Ng Tung River was carried out from 10 February 2010 to 24 February 2010 at a village house at Border Road adjacent to Shun Yee San Tusen (MTL01) continuously as stipulated in EM&A Manual. No major construction work was undertaken at the subject site and in the vicinity during the monitoring period.

Baseline noise levels at the monitoring location during non-restricted hours range from 53.9dB(A) to 58.5dB(A) with an average of 56.0dB(A).

The Action Level for noise impact monitoring is predefined as when any documented complaint is received. The Limit Level is $L_{eq(30min)}75dB(A)$ at 1m away from the façade of the dwelling.

In the event of non-compliance with environmental regulations or contractual requirements during construction phase of the Project, the Contractor shall take immediate action in accordance with the Event/Action Plan.

1. INTRODUCTION

1.1 *Project Background*

The Frontier Closed Area (FCA) is an integral part of the package of measures for maintaining the integrity of the Hong Kong SAR's boundary with the Mainland and for combating illegal immigration and other cross-boundary criminal activities. Following a recent review, the Government has concluded that with the erection of a secondary boundary fence (SBF) along the boundary patrol road (BPR) and construction of new sections of the BPR and primary boundary fence (PBF) at certain sections along the boundary, the FCA coverage can be substantially reduced without affecting the objective of maintaining the integrity of the boundary. The PBF and SBF will be erected along the northern and southern curbs of the realigned BPR respectively to facilitate the Police in combating cross-boundary criminal activities. The reduced FCA will comprise a narrow strip of land covering the realigned BPR and areas to its north, together with the points of crossing the boundary (i.e. the Boundary Control Points and Sha Tau Kok town). Areas south of the SBF will generally be excised from the FCA. The proposed Secondary Boundary Fence is categorized as a Designated Project (DP) under the Environmental Impact Assessment Ordinance (EIAO) and therefore a detailed Environmental Impact Assessment (EIA-161/2008) was conducted in year 2009. An Environmental Permit (EP-347/2009) and an Further Environmental Permit (FEP-02/347/2009) for the construction of the project was issued by Environmental Protection Department in June 2009 and February 2010 respectively.

The subject site is located at Ma Tso Lung Road adjacent to Ma Tso Lung Tsuen of Lok Ma Chau as shown in [Figure 1](#). The subject site is bounded to the north by Shenzhen River and to the south by a farmland. A village house adjacent to Shun Yee San Tsuen (MTL01) as mentioned in the Environmental Monitoring & Audit (EM&A) Manual is the nearest residential establishment which is located immediately next to the site boundary. The scope of the Project includes:

- to convert the maintenance services road of Drainage Services Department along the Shenzhen River bank to the north of the Lok Ma Chau Loop and Hoo Hok Wai into a new section of the BPR (approximately 5.6km);
- to erect a new primary boundary fence (PBF) with the sensor alarm system and an SBF respectively along the northern and southern side of the converted road;

1.2 *Baseline Environmental Monitoring*

Allied Environmental Consultant Limited (AEC) has been appointed by Able Engineering Company Limited (the "Contractor") as the Environmental Team (ET) for the Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road Section 2 Lok Ma Chau Control Point to Ng Tung River (the "Project"). Pursuant to Clause 4.4 of the Environmental Permit No. FEP-02/347/2009, a Baseline Monitoring Report is required to be submitted to the Director of Environmental Protection (DEP) at least 2 weeks before commencement of construction of the Project. Baseline environmental monitoring was conducted by AEC for the Project in February 2010. This report presents the results of the

baseline noise monitoring conducted for the Project and the Action and Limit Levels for noise quality monitoring during the construction period. Baseline monitoring results serve as a basis to evaluate the environmental performance of construction work at the subject site.

2. CONSTRUCTION PROGRAMME

The construction of the Project is anticipated to be last for 29 months. The construction work will commence in 12th April 2010.

All environmental mitigation measures for construction stages stated in approved EIA Report, EM&A Manual and Environmental Permit for the Project shall be carried out throughout the whole construction period as shown in [Appendix A](#).

3. ENVIRONMENTAL REGULATIONS

3.1 Noise

3.1.1 Environmental Legislation and Guidelines

The principal legislation for the control of construction noise is given in the Noise Control Ordinance (NCO). Various Technical Memoranda (TMs), which stipulate the control approaches and criteria for construction noise have been issued under the NCO. The following TMs are applicable to the control of noise from construction activities:

- Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM);
- Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM); and
- TM on Noise from Percussive Piling (PP-TM).

GW-TM governs the use of specified powered mechanical equipment (PME) including compressors, bored piling, concrete pumps, concrete mixers, generators, excavators, etc.

DA-TM governs construction works to be carried out within Designated Area during restricted hours (1900-0700). It covers Prescribed Construction Works (PCW) including erection or dismantling of formwork or scaffolding; loading, unloading or handling of rubble, wooden boards, steel bars, wood or scaffolding material; and hammering. If the subject site falls within a Designated Area, any PCW carried out during restricted hours shall require a valid CNP.

A Construction Noise Permit (CNP) is required for any construction work being carried out during the night-time (2300 to 0700 hours), evening (1900 to 2300 hours) and any time on general holidays, including Sundays.

The control of percussive piling is governed at all times by PP-TM.

Baseline Environmental Monitoring Report

The NCO requires construction noise levels to comply with the stipulated Acceptable Noise Level (ANL) as given in GW-TM and DA-TM. The ANL is dependent on the Area Sensitivity Rating assigned for the NSR.

In addition, other related regulations, namely the Noise Control (Hand held percussive breakers) Regulation and Noise Control (Air Compressors) Regulation control the noise emission from hand held breakers and air compressors with respect to relevant noise emission standards and fixing of noise emission labels.

3.1.2 Construction Noise Criteria

The Contractor shall adhere to the noise criteria found in the *TM-EIAO*, as the criteria laid down in ProPECC PN 2/93.

The noise standards are dependent on the type of sensitive uses of the receivers of concern. According to EPD's Practical Note for Professional Persons: Noise from construction activities: Non-statutory Controls (ProPECC PN 2/93), the recommended day-time construction noise level (0700-1900 on any day not being a Sunday or general holiday) shall be limited to 75dB(A) (Leq, 30mins) at sensitive residential buildings with opened windows and, 70dB(A) and 65dB(A) (during examinations) at school and educational buildings in the neighbourhood, as given in [Table 1](#).

Table 1 Acceptable Noise Levels for Day, Evening and Night Periods

Uses	Noise Standards, dB(A), Leq (30mins)	
	0700 to 1900 hours on any day not being a Sunday or general holiday	1900 to 0700 hours or any time on Sunday or general holiday
All domestic premises including temporary housing accommodation	75	(see Note)
Hotels and hostels	75	(see Note)
Educational institutions including kindergartens, nurseries and all others where unaided noise communication is required	70 65 (during exam.)	(see Note)

Note: For carrying out general construction activities involving the use of Powered Mechanical Equipment (PME) within restricted hours, a Construction Noise Permit (CNP) is required from the Authority under the Noise Control Ordinance (NCO). The noise criteria and the assessment procedures for issuing a CNP are specified in Technical Memorandum on Noise from Construction Work Other Than Percussive Piling (GW-TM) under the NCO.

4. MONITORING METHODOLOGY

4.1 Baseline Monitoring Programme

Baseline noise monitoring was conducted at MLT01 from 10 February 2010 to 24 February 2010 for 14 days continuously during the monitoring period.

No major construction work at the Project site and in the vicinity was taken place during the monitoring periods.

4.2 Monitoring Location

According to the EM&A Manual, there are total 10 designated noise monitoring locations for the entire Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road project, where only MTL01 is within 300m from the construction area for Section 2 (Lok Ma Chau Control Point to Ng Tung River), thus only MTL01 is covered in this baseline noise monitoring for Section 2. Baseline Monitoring was carried out at the designated location MTL01 - a village house at Ma Tso Lung Road adjacent to Ma Tso Lung Tsuen, Lok Ma Chau according to the EM&A Manual in February 2010. Noise monitoring station was set up at the ground level of the village house adjacent to Ma Tso Lung Road as shown in [Figure 2](#). Photographs showing the above noise monitoring stations are shown in [Figure 3](#).

4.3 Noise Monitoring

Baseline noise monitoring was conducted at the designated noise monitoring location 24-hrs continuously for 14 days using a sound level meter which complies with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). Noise instrumentation details are given in [Table 2](#) and the Calibration Certificate for the sound level meter and calibrator is given in [Appendix B](#).

Table 2 Noise Monitoring Equipment

Manufacturer	Type/Model No.	Equipment
RION	Model NL 31	Precision Sound Level Analyser with windshield
RION	Model NC 73	Calibrator

Baseline noise levels were measured in terms of five minutes A-weighted equivalent continuous sound pressure level ($L_{eq(5min)}$) continuously during the monitoring period. $L_{eq(30min)}$ was calculated to represent the baseline level for the non-restricted hours. The sound level meter was calibrated immediately prior to and following each noise measurement. The meter was mounted on a tripod at a height of 1.2m and the microphone was positioned at 1m away the building façade of the noise monitoring station facing the construction site.

Noise measurements were not made in the presence of fog, heavy rain, and wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed was checked with a portable anemometer capable of measuring the wind speed in m/s.

5. RESULTS

5.1. Noise

Noise monitoring results for non-restricted hours in terms of $L_{eq(30min)}$, $L_{10(30min)}$ $L_{90(30min)}$ was calculated for the designated noise monitoring location and are summarized in [Table 3](#). L_{10} and L_{90} represent sound levels that are exceeded 10% and 90% of the time respectively. Normally, L_{10} measurements can be considered as the average peak levels, whilst L_{90} levels can be considered as the average background noise levels.

Baseline noise monitoring results represent the background noise climate of the area and may be used to carry out background noise corrections to determine the actual noise impact caused by construction works at the site. The minimum and maximum baseline noise level measured at MTL01 was $L_{eq(30min)}$ 53.9dB(A) and $L_{eq(30min)}$ 58.5dB(A) respectively with an average of $L_{eq(30min)}$ 56.0dB(A). Summary of noise monitoring record is given in [Appendix C](#).

Table 3 Noise Monitoring Results during Non-Restricted Hours

Day	Date	$L_{eq(30mins)}$ (dB(A))	$L_{10(30mins)}$ (dB(A))	$L_{90(30mins)}$ (dB(A))
1	10-Feb-10	54.5	54.2	43.9
2	11-Feb-10	55.0	56.2	43.8
3	12-Feb-10	57.4	54.0	45.7
4	13-Feb-10	N/A	N/A	N/A
5	14-Feb-10	N/A	N/A	N/A
6	15-Feb-10	N/A	N/A	N/A
7	16-Feb-10	N/A	N/A	N/A
8	17-Feb-10	56.4	51.8	44.5
9	18-Feb-10	55.1	50.2	44.8
10	19-Feb-10	53.9	49.8	43.7
11	20-Feb-10	54.6	52.2	40.8
12	21-Feb-10	N/A	N/A	N/A
13	22-Feb-10	55.4	54.4	43.4
14	23-Feb-10	57.1	56.4	43.6
15	24-Feb-10	58.5	59.6	45.3
	Average	56.0	54.9	44.1

Note: Shaded area indicates Sundays or Public Holidays. All measurement results at Sundays and Public Holidays are categorized into Restricted Hours, hence are not presented in Table 3. For measurement results in Restricted Hours, please refer to Appendix C.

6. MAJOR INFLUENCING FACTORS

Baseline Environmental Monitoring Report

Border Road is located in front of the monitoring location. Traffic along Border Road was the major noise source during the baseline monitoring period. [Figure 3](#) shows the surrounding environment of Border Road.

Weather condition is also a major factor affecting the monitoring results. As shown in [Appendix C](#), 6 out of 14 days were fine with occasional slightly rain during the measurement. However, it is anticipated that the impact of these occasional rain is negligible.

It should be noted that the designated noise monitoring location is located at rural area where the baseline noise environment is very quiet. Although there are some village houses and a local access road nearby, it was observed that there were no human activities and vehicular movements in most of the time during the baseline monitoring period. Noise was mainly generated from occasional dog barking and vehicular moment (~1 veh per hour) only. The measured Leq(30 min) were higher than L10(30min) as a result of low occurrence of such occasional noisy events.

7. ACTION AND LIMIT LEVELS

The proposed Action and Limit Levels for construction noise are summarized in [Table 4](#).

Table 4 Action and Limit Levels for Construction Noise Impact Monitoring

<i>Time Period</i>	<i>Action Level</i>	<i>Limit Level</i>
Daytime (0700-1900 hours) on weekdays	When one documented complaint is received	Dwelling 75dB(A) ¹ School 70dB(A) ¹ (65dB(A) during examinations) ¹

Note: 1. Construction noise criteria stipulated in the TM-EIAO

2. For carrying out general construction activities involving the use of Powered Mechanical Equipment (PME) within restricted hours, a Construction Noise Permit (CNP) is required from the Authority under the Noise Control Ordinance (NCO). The noise criteria and the assessment procedures for issuing a CNP are specified in Technical Memorandum on Noise from Construction Work Other Than Percussive Piling (GW-TM) under the NCO.

Should non-compliance of the above Action and Limit levels occurs, the contractor shall undertake corresponding in accordance with the proposed Event and Action Plan given in [Table 5](#) and the Event/ Action Plans given in EM&A Manual.

Table 5 Event Contingency Plan

Event	Action			
	ET Leader	IEC	ER	Contractor
Action Level	<ul style="list-style-type: none"> 1. Notify IEC and the Contractor. 2. Carry out investigation. 3. Report the results of investigation to IEC 	<ul style="list-style-type: none"> 1. Review with analyzed results submitted by ET. 2. Review the proposed 	<ul style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. 	<ul style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC. 2. Implement noise mitigation

Baseline Environmental Monitoring Report

	and the Contractor. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation measures.	remedial measures by the Contractor and advise ER accordingly. 3. Supervise the implement of remedial measures.	Require the Contractor to propose remedial measures for the analyzed noise problem. 4. Ensure remedial measures are properly implemented.	proposals.
Limit Level	<ul style="list-style-type: none"> 1. Identify the source. 2. Notify IEC, ER, EPD and the Contractor. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform IEC, ER, and EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 8. If exceedance stops, cease additional monitoring. 	<ul style="list-style-type: none"> 1. Discuss amongst ER, ET Leader and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly. 3. Supervise the implementation of remedial measures. 	<ul style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analyzed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated. 	<ul style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.




8. CONCLUSIONS

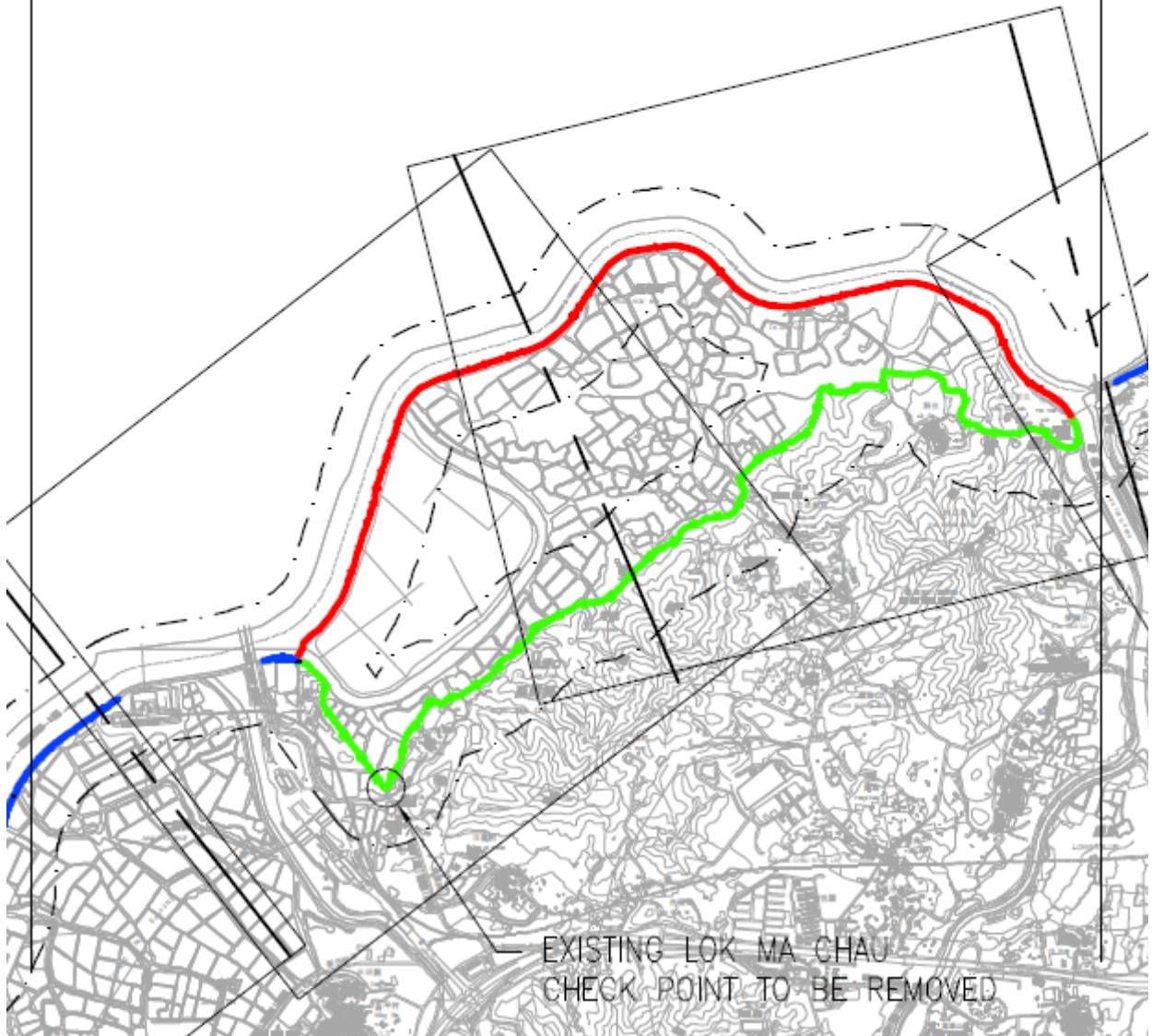
Baseline noise monitoring was carried out for the Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road Section 2 Lok Ma Chau Control Point to Ng Tung River.

Baseline noise monitoring result represents the background noise climate of the area and may be used to carry out background noise corrections to determine the actual noise impact caused by construction work at the site as necessary.

Action Level for impact monitoring shall be as when one documented complaint is received. The Limit Level shall be the daytime construction noise criteria given in ProPECC PN 2/93. In the event of non-compliance with environmental regulations or contractual requirements, the Contractor shall take immediate action in accordance with the Event/Action Plan.

SECTION 2

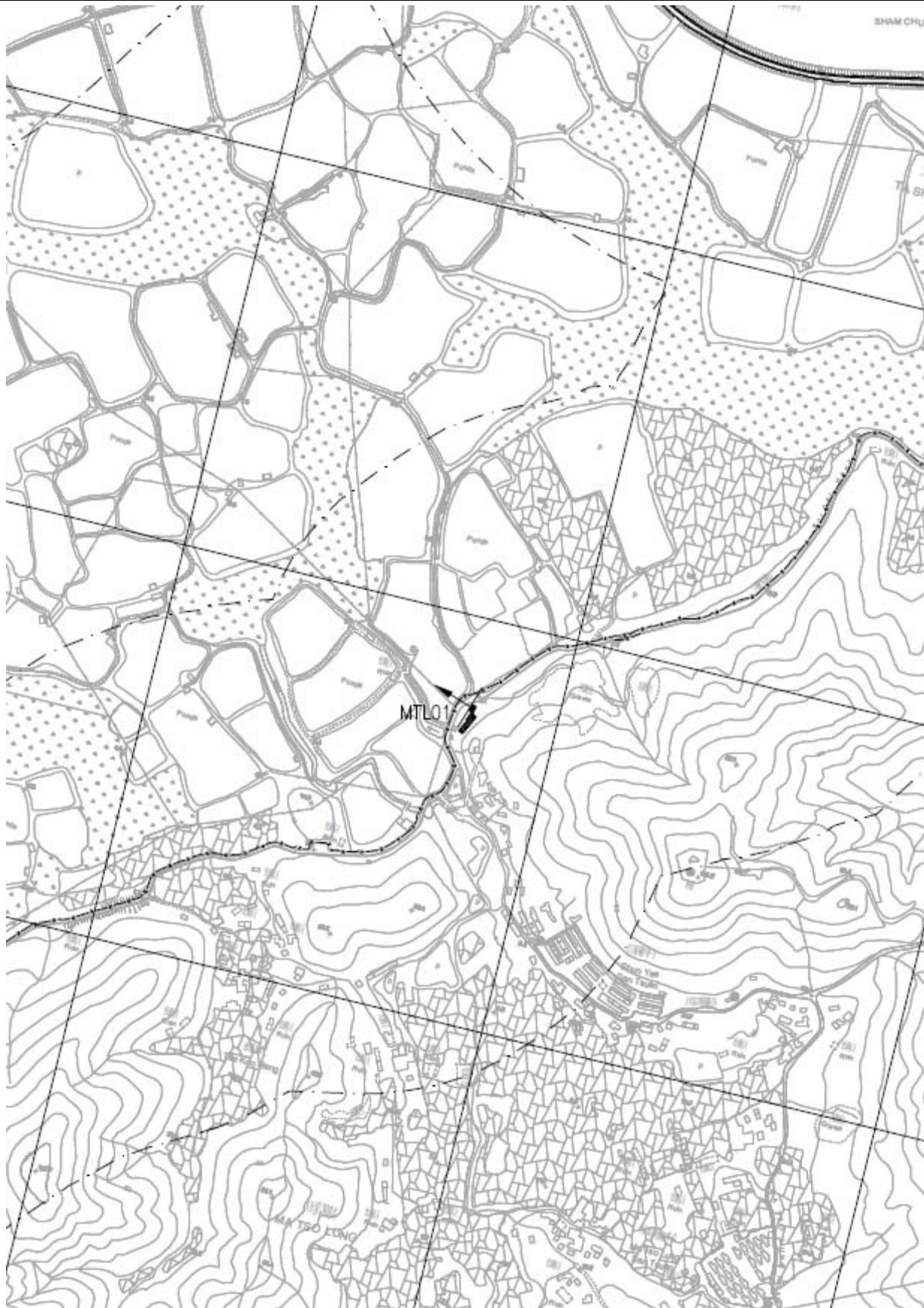
-  PROPOSED SECONDARY BOUNDARY FENCE ALONG EXISTING BOUNDARY PATROL ROAD
-  PROPOSED NEW BOUNDARY PATROL ROAD WITH PRIMARY AND SECONDARY BOUNDARY FENCES
-  EXISTING BOUNDARY FENCE TO BE REMOVED



CONSTRUCTION OF A SECONDARY BOUNDARY FENCE AND NEW SECTION OF PRIMARY BOUNDARY FENCE AND BOUNDARY PATROL ROAD (SECTION 2 LOK MA CHAU CONTROL POINT TO NG TUNG RIVER)
SITE LOCATION PLAN

Figure No.	Rev.:
1	0
Scale	Date
NTS	02/10





**CONSTRUCTION OF A SECONDARY BOUNDARY FENCE AND NEW SECTION
OF PRIMARY BOUNDARY FENCE AND BOUNDARY PATROL ROAD
(SECTION 2 LOK MA CHAU CONTROL POINT TO NG TUNG RIVER)
LOCATION OF NOISE MONITORING STATION**

Figure No.

2

Rev.:

0

Scale

NTS

Date

02/10





**CONSTRUCTION OF A SECONDARY BOUNDARY FENCE AND NEW SECTION
OF PRIMARY BOUNDARY FENCE AND BOUNDARY PATROL ROAD
(SECTION 2 LOK MA CHAU CONTROL POINT TO NG TUNG RIVER)
PHOTOS OF NOISE MONITORING STATION**

Figure No.	Rev.:
3	0
Scale	Date
NTS	02/10



Appendix A

*Mitigation Measures Implementation Schedule for
Construction Stage*

MITIGATION MEASURES IMPLEMENTATION SCHEDULE FOR CONSTRUCTION STAGE

EIA Ref. Section	EM&A Ref. Section	Environmental Protection Measures	Location/Duration of Measures/ Timing of completion measures	Relevant Legislation & Guidelines
4.7	2.8	<p>Air Quality</p> <ul style="list-style-type: none"> • Hoarding of not less than 2.4m high shall be provided along the site boundary section adjoins a road, street, service land or other area accessible to the public • Spray water to where excavation to be taken place immediately prior to, during and after excavation • Any stockpile of dusty material shall be either: (a) covered entirely by impervious sheeting; (b) placed in an area sheltered on the top and the three sides; or (c) sprayed with water or a dust suppression chemical so as to maintain the entire surface wet • Cement bags or any other dusty materials collected during the work should be disposed of in totally enclosed containers • All dusty materials should be sprayed with water immediately prior to any loading, unloading or transfer operation so as to minimise the dusty materials wet • Any dusty material remaining after a stockpile of cement or other materials is removed should be wetted and removed from the surface of roads • Where a vehicle leaving the construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle • Conveyor belts shall be fitted with windboards, and conveyor transfer points and hopper discharge areas shall be enclosed and fitted with belt cleaners • Skip hoist for the transport of construction wastes should be properly enclosed • Vehicle washing facilities including a high pressure water jet shall be provided at the designated vehicle exit point and every vehicle immediately before leaving the construction site shall be washed to remove any dusty materials from its body and wheels • Every main haul road, vehicle washing areas and the section of road between the washing facilities and the exit point shall be paved with concrete, bituminous materials, hardcore or metal plates and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet • Debris from the construction of the WFM shall be covered entirely by impervious sheeting or stored in a sheltered debris collection area 	Construction site of the proposed WFM/ Throughout the construction period	APCO/EIA Study
5.7	3.7	<p>Noise</p> <ul style="list-style-type: none"> • Use quiet construction equipment • Use silencers / mufflers, noise barriers / enclosure where practicable • The Contractor is required to determine the number and type of construction equipment taking 	Construction site of the proposed WFM throughout the	NCO/EIA Study

EIA Ref. Section	EM&A Ref. Section	Environmental Protection Measures	Location/Duration of Measures/ Timing of completion measures	Relevant Legislation & Guidelines
		<p>into account the use of quiet plant while devising a feasible work programme</p> <ul style="list-style-type: none"> • Only well-maintained plant shall be operated on-site and all equipment shall be routinely checked • Turn off or throttle down idle plant • Plants known to emit noise strongly shall be oriented away from NSRs • Mobile plants shall be sited as far away from NSRs as possible • Stockpiles and other structures shall be effectively utilised as practicable to screen noise from on-site construction activities • Obtain valid noise permits for construction work during restricted hours 	construction period	
6.7	4.1	<p>Water Quality</p> <ul style="list-style-type: none"> • Site shall be kept clean and tidy to avoid construction materials and waste being washed off from site • Works shall be planned to avoid rainy season so as to minimize the runoff and reduce the amount of soil that can be carried offsite • Surface run-off from the construction site shall be directed to silt traps or sedimentation basin before reuse or discharge with help of channels, earth bunds or sand bag barriers for suspended solids removal prior to its being discharged to storm water drain. Silt trap design shall conform to the guidelines laid down in Appendix A1 of ProPECC PN 1/94 • Wastewater likely to be contaminated with oil or grease should be passed through an oil separator or grease trap before entering the site drainage system • Hoarding gaps should be tightly sealed to avoid the seepage of wastewater to the nullah and outside the site • Perimeter channels shall be provide at site boundaries, where necessary, to intercept storm-water runoff from outside the site • Silt traps, sedimentation basins, channels and manholes shall be regularly cleaned to remove the deposited silt and grit • Temporarily exposed slope surfaces and construction material stockpiles shall be covered with tarpaulin or similar fabric to prevent erosion • Wastewater generated from bored-piling shall be re-circulated after sedimentation as practicable. The final discharge of the wastewater shall be via silt removal facilities • All fuel tanks and chemical storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters • Obtain valid discharge license for construction site discharges • Chemical toilets shall be provided on site • Monitor the quality of water discharge to ensure compliance of the license condition 	Construction site of the proposed WFM Throughout the construction period	WPCO/EIA Study

EIA Ref. Section	EM&A Ref. Section	Environmental Protection Measures	Location/Duration of Measures/ Timing of completion measures	Relevant Legislation & Guidelines
		<ul style="list-style-type: none"> • Sufficient guidance shall be given to all workers before carrying out excavation in the vicinity of pipelines • Manually operated warning siren shall be installed to instruct people to take timely shelter • Fire drill exercises shall be organized for the workers at the site and users of the WFM 		

Appendix B

*Calibration Certification of
Sound Level Meter and Calibrator*

Certificate No. : C095683

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Meter

Manufacturer : Rion

Model No. : NL-31

Serial No. : 00983400

*has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C095683.*

The equipment is supplied by

Co. Name : Envirotech Services Co.

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong*

Date of Issue : 23 October 2009

Certified by :

K C Lee

The test equipment used for calibration are traceable to the National Standards as specified in this report.
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Certificate No. : C093598

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Calibrator

Manufacturer : Rion

Model No. : NC-73

Serial No. : 10786708

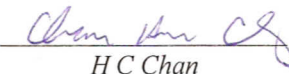
*has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C093598.*

The equipment is supplied by

Co. Name : Envirotech Services Co.

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong*

Date of Issue : 10 July 2009

Certified by : 
H C Chan

Appendix C

Summary of Noise Monitoring Record

Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road (Section 2 Lok Ma Chau Control Point to Ng Tung River)

Table 1 Baseline Noise Monitoring Results at Ma Tso Lung (MTL01)

Date	Non-restricted Hours on <i>Normal Weekdays</i> (0700-1900)			Restricted Hours (1900-2300 on <i>Normal Weekdays</i> and 0700-2300 on <i>Sundays and Public Holidays</i>)			Restricted Hours on <i>All Days</i> (2300-0700)			Weather Conditions
	Noise Level, dB(A)			Noise Level, dB(A)			Noise Level, dB(A)			
	L _{eq} (30min)	L ₁₀ (30min)	L ₉₀ (30min)	L _{eq} (5min)	L ₁₀ (5min)	L ₉₀ (5min)	L _{eq} (5min)	L ₁₀ (5min)	L ₉₀ (5min)	
10-Feb-10	54.5	54.2	43.9	57.4	58.8	53.0	58.9	60.6	55.9	Fine
11-Feb-10	55.0	56.2	43.8	55.5	57.7	49.4	56.1	58.6	51.2	Fine*
12-Feb-10	57.4	54.0	45.7	51.7	49.3	45.0	53.5	54.0	46.2	Cloudy
13-Feb-10	N/A	N/A	N/A	54.7	52.2	41.4	51.4	51.0	43.1	Fine*
14-Feb-10	N/A	N/A	N/A	51.9	52.2	42.6	49.8	51.5	39.2	Fine*
15-Feb-10	N/A	N/A	N/A	54.4	51.1	44.8	48.0	48.3	42.3	Fine*
16-Feb-10	N/A	N/A	N/A	53.4	52.4	44.3	49.7	48.7	43.4	Fine*
17-Feb-10	56.4	51.8	44.5	61.6	64.9	45.4	53.1	58.0	41.7	Fine*
18-Feb-10	55.1	50.2	44.8	57.2	56.0	44.8	46.9	48.1	42.2	Cloudy
19-Feb-10	53.9	49.8	43.7	51.1	47.9	43.0	49.5	49.1	43.2	Cloudy
20-Feb-10	54.6	52.2	40.8	50.0	55.0	37.2	45.9	47.3	40.5	Cloudy
21-Feb-10	N/A	N/A	N/A	52.0	50.3	38.6	53.8	55.5	35.9	Fine
22-Feb-10	55.4	54.4	43.4	50.4	45.7	37.7	45.2	50.4	36.7	Fine
23-Feb-10	57.1	56.4	43.6	56.3	56.5	49.5	47.6	47.8	41.1	Fine
24-Feb-10	58.5	59.6	45.3	-	-	-	49.0	48.0	45.6	Cloudy
Average Noise Level (excluding Sundays and public holidays)	56.0	54.9	44.1	56.2	58.1	47.5	52.9	55.0	48.3	
Days of data used	10	10	10	9	9	9	10	10	10	
Average Noise Level (including Sundays and public holidays)	N/A	N/A	N/A	55.4	56.7	46.3	52.4	54.2	47.0	
Days of data used	N/A	N/A	N/A	14	14	14	15	15	15	

Remarks:

Shaded area indicates Sunday or Public Holiday.

N/A: Not applicable as the measurement results for Sundays and Public Holidays are presented under Restricted Hours.

* - Fine with occasional rainy

Chart 1 - Baseline Noise Monitoring at Ma Tso Lung (MTL01) during Non-restricted Hours on Normal Weekdays (0700-1900)
(10 February 2010 - 24 February 2010)

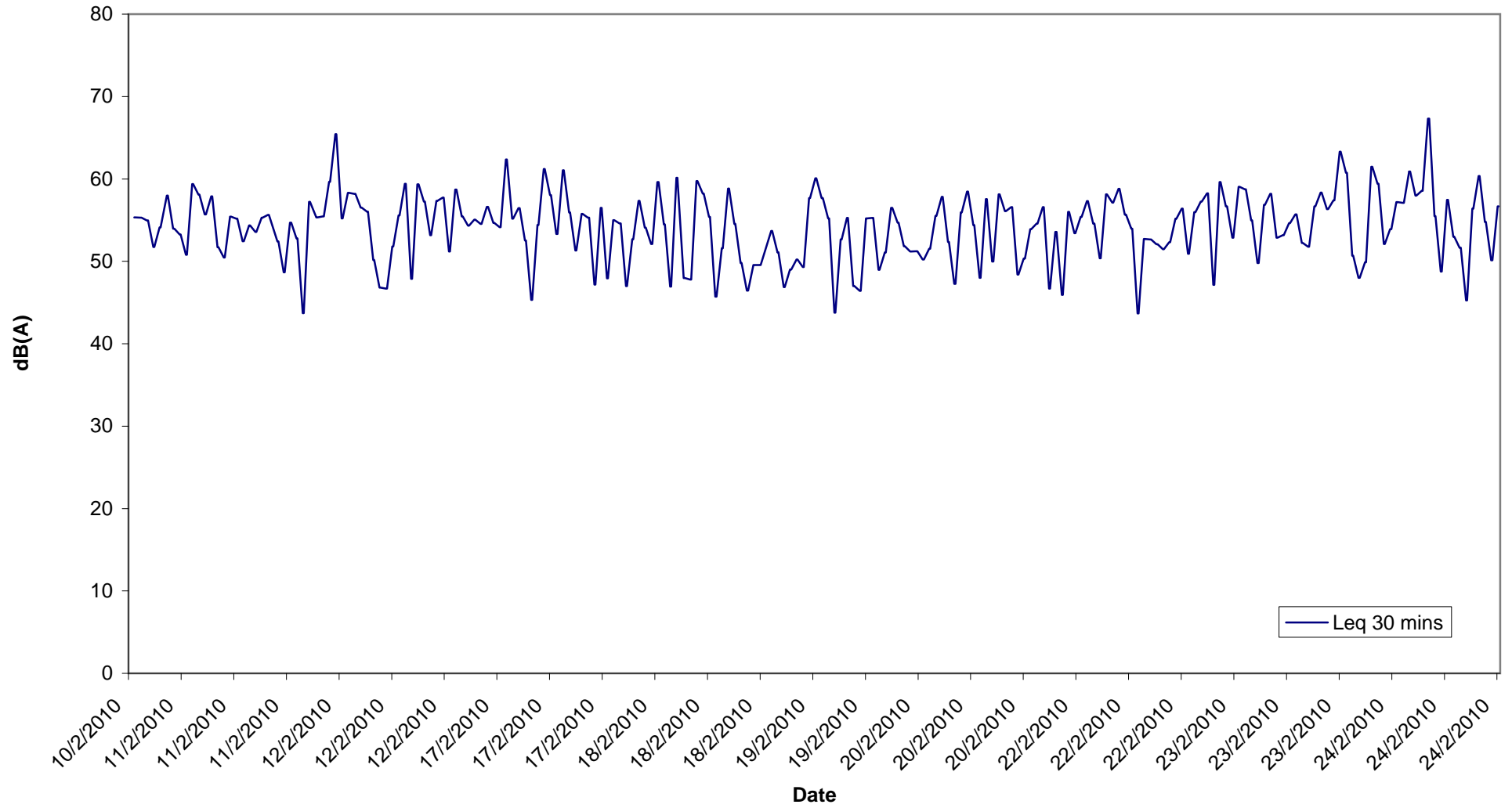


Chart 2 - Baseline Noise Monitoring at Ma Tso Lung (MTL01) during Restricted Hours 1900-2300 on Normal Weekdays
(10 February 2010 - 24 February 2010)

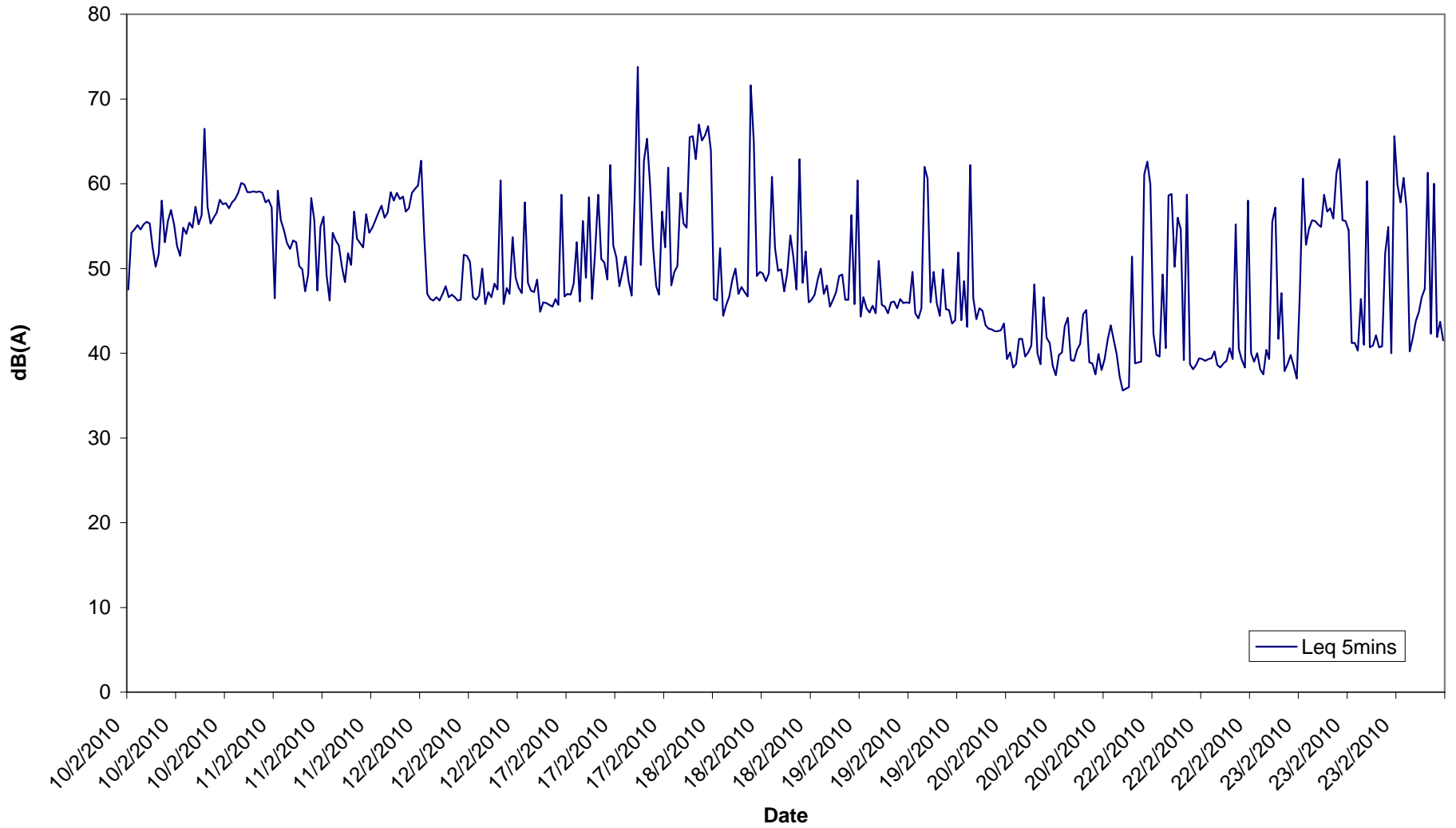


Chart 3 - Baseline Noise Monitoring at Ma Tso Lung (MTL01) during Restricted Hours 2300-0700 on Normal Weekdays
(10 February 2010 - 24 February 2010)

