

# BARBICAN CONSTRUCTION CO., LTD

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Contract No. HY/2001/18  
Sai Sha Road Widening between Kam Ying  
Road and Futher Trunk Road T7 Junction

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## MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT REPORT NO. 27

Document No. R/2563/037 Issue 1


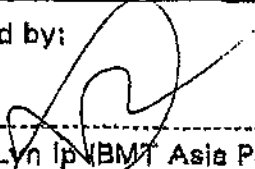
January 2005



**Babtie Asia Ltd**  
15/F Cornwall House, Taikoo Place  
979 King's Road, Quarry Bay  
Hong Kong

**Contract No. HY/2001/18  
Sai Sha Road Widening between Kam Ying Road and  
Proposed Road T7 Junction**

**Monthly Environmental Monitoring & Audit Report  
Report No. 27**

Approved for Issue by:	
	.....
Mr Mark Cheung (Babtie Asia Ltd.)	.....
Position:	Environmental Team Leader
Date:	4 January 2004
Verified by:	
	.....
Ms. Lynn Ip (BMT Asia Pacific Limited)	.....
	Independent
Position:	Environmental Checker
Date:	11 January 2005

Barbican Construction Co. Ltd  
G/F Shop 11 & 1<sup>st</sup> Floor,  
2 Landale Street,  
Wanchai  
HONG KONG

Babtie Asia  
15/F, Cornwall House  
Taikoo Place, 979 King's Road  
Quarry Bay  
HONG KONG

CONTRACT NO. HY/2001/18  
SAI SHA ROAD WIDENING BETWEEN KAM YING ROAD  
AND FUTURE TRUNK ROAD T7 JUNCTION

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

REPORT NO. 27

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## EXECUTIVE SUMMARY

This is the twenty-seventh EM & A Report for the project of Sai Sha Road Widening between Kam Ying Road and Future Trunk Road T7 Junction.

This report mainly presents the EM & A works undertaken for the above project from 1 December 2004 to 31 December 2004 in accordance with the EM & A Manual under Appendix H.3 of the Particular Specification.

### Noise Level

$L_{eq(30min)}$  noise level measurement was performed at CNM 1 and CNM 2. CNM 1 is for noise sensitive receivers (NSRs 1 & 2) Wu Kwai Sha New Village. CNM 2 is for (NSRs 3 & 4) Kam Lung Court/ Lee On Estate. The limit level for all the noise sensitive receivers is 75 dB(A).

Construction noise monitoring was carried out on the 4<sup>th</sup>, 9<sup>th</sup>, 16<sup>th</sup>, 23<sup>rd</sup> and 30<sup>th</sup> of December 2004. All the measured noise levels recorded at the two monitoring stations were below the noise limit level.

### Complaint log

No written or verbal complaints were received during the reporting period.

### Others

No notifications of summons, no successful prosecutions were received during the reporting period.

### Future Key Issues

Adverse influence on both air quality and noise level is anticipated from future construction activities, such as footbridge construction work near Residential Development at Wu Kwai Sha DD206, drainage construction works near Lee Wing House, footbridge construction works near the Wu Kwai Sha New Village and the machine operation on the unpaved haul road near Lee Wing House. The Contractor should carry out good site practice to minimise the potential air pollution and noise pollution.

The Contractor should provide an effective water spraying system for watering the site area in purpose of dust suppression especially where excavation works and other earthworks are being undertaken on the unpaved haul road near Lee Wing House.

Construction vehicles should be washed out before leaving the site area. Site runoff including those from wheel washing should be properly treated through sedimentation tank before being discharged to the stormwater drainage system.

The Contractor should exert himself to prevent the accumulation of stagnant water to avoid the breeding of mosquitoes and the spread of dengue fever.

To improve the hygiene condition of the site, the Contractor should regularly remove the rubbish within the site area and provide rubbish bins as far as possible.

## 1.0 ENVIRONMENTAL STATUS

### 1.1 Background

Babtie Asia Ltd was employed by the Contractor to act as the Environmental Team for this project. The Independent Environmental Checker is BMT Asia Pacific Limited.

The purpose of this document is to report the Environmental Monitoring & Audit (EM & A) works in the period between 1 December 2004 and 31 December 2004.

### 1.2 Contact Details of Key Personnel

Titles, names and contact telephone numbers of the key personnel of the captioned project are tabulated below:

Title	Name	Contact Number
Engineer's Representative (Highways Department)	Mr. Greg Leung	2716 1043
EPD	Mr. Simon Hui	2835 1105
Project Director (Contractor)	Mr. David Kong	2137 5522
Project Manager (Contractor)	Mr. Alan Tam	9161 2991
Site Agent (Contractor)	Mr. Alan Tam	9161 2991
Environmental Team Leader (Babtie Asia Limited)	Mr. Mark Cheung	2738 3803
Independent Environmental Checker (BMT Asia Pacific Limited)	Ms. Lyn Ip	2241 9812

### 1.3 Construction Programme

The latest construction programme is attached in Appendix A. This construction programme is subject to continuous refinement.

### 1.4 Site Management Structure

The site organization chart is shown as Appendix B.

### 1.5 Works undertaken during the reporting period with illustrations

The works for this project are divided into three sections: Section 1, Section 2 and Section 3.

Section 1 comprises all the works for the completion of the subway system connecting the existing vacant subway barrel across Sai Sha Road adjacent to Kam Ying Road and the local widening of northern Kam Ying Road and all associated landscaping works.

Section 2 comprises all construction works including the new carriageways, two footbridges and all footpath, cycle tracks, subways, village access road, noise barriers, roundabout and associated works comprising drainage works, E&M works, traffic signs and aids, slope works, embankments, retaining walls, subway wing walls, cycle parks,

fencing, street lighting and all associated landscaping works, except Section 1 and Section 3.

Section 3 comprises all the works for the new access road to Whitehead and all the works except Section 1 and 2.

The works undertaken during the reporting period were as follows:

- Retaining Wall 1 Construction
- Finishes in Subway 1 and 2
- Drainage in footpath.
- Landscaping works – Hydro-seeding

The photos showing the construction works in the reporting period are shown in Appendix C.

## **1.6 Project Area, Sensitive Receivers & Monitoring Locations**

The drawings showing the project area, noise sensitive receivers (NSRs) and the locations of the monitoring stations are shown in Appendix D.

The construction noise monitoring stations are CNM 1 and CNM 2.

CNM 1 is for noise sensitive receivers (NSRs 1 & 2) Wu Kwai Sha New Village. CNM 2 is for (NSRs 3 & 4) Kam Lung Cour/ Lee On Estate.

It is noted that the locations of the monitoring stations are the same as those adopted in the Noise Baseline Monitoring.

## 2.0 IMPLEMENTATION STATUS

According to the EIA report, the following should be implemented for the eighth construction phase quarter.

Location	Reference Section	Environmental Measures	Protection	Agent
<i>Construction Noise Mitigation</i>				
Wu Kwai Sha New Village (1)	EIA 3.5.25	Mitigation Option 2		Contractor
Wu Kwai Sha New Village (2)	EIA 3.5.23	Mitigation Option 1		Contractor
Lok Wo Sha (1)	EIA 3.5.23	Mitigation Option 1		Contractor
Lok Wo Sha (2)	EIA 3.5.23	Mitigation Option 1		Contractor
Kam Lung Court (1)	EIA 3.5.25	Mitigation Option 2		Contractor
Kam Lung Court (2)	EIA 3.5.25	Mitigation Option 2		Contractor
Lee On Estate (1)	EIA 3.5.25	Mitigation Option 2		Contractor
Lee On Estate (2)	EIA 3.5.25	Mitigation Option 2		Contractor
Residential Development STTL446	EIA 3.5.23	Mitigation Option 1		Contractor

- Note: The locations of the noise assessment points are shown in the Figure 7 of the EIA Report.



Location	Reference Section	Environmental Protection Measures	Agent
<b><i>Landscape and Visual Mitigation Measures for the Construction Phase</i></b>			
All Scheme Roads	EIA 4.5.1	<ul style="list-style-type: none"> <li>• Conservation of topsoil;</li> <li>• Screening of site construction works by use of hoardings;</li> <li>• Surface treatment of site hoardings to enhance visual interest and harmony with surrounding landscape / townscape;</li> <li>• Locating site offices and other temporary buildings in least visually prominent locations;</li> <li>• Efficient programming of construction works to reduce duration of construction works;</li> <li>• Staging of construction works to minimise areas requiring site hoardings which creates visual intrusion;</li> <li>• Re-routing of pedestrian routes away from the work site where possible;</li> <li>• Retaining existing trees and minimising damage to vegetation where possible. Care shall be taken not to damage those trees identified in the Tree Survey Report to be retained during the construction phase; and</li> <li>• Careful and efficient transplanting of existing vegetation carried out under the supervision of a professional landscape architect</li> </ul>	Contractor

## 2.1 Advice on the Implementation Status of Environmental Protection & Pollution Control / Mitigation Measures

### 2.1.1 Construction Noise Mitigation Measures

The Contractor should use silencers or mufflers on construction equipment such as pneumatic breaker and have noisy air compressor completely enclosed to avoid exceeding the noise limit level and nuisance to the nearby sensitive receivers.

Regular maintenance of the construction plant is strongly encouraged to avoid black smoke and excessive noise production. The machines and plant should be shut down or throttled down to a minimum when they are in intermittent use.

The plant known to emit noise strongly in one direction should be orientated to direct noise away from nearby noise sensitive receivers. The mobile plants should be sited as far away from the noise sensitive receivers as possible.

Care should be taken that different mitigation plans (option 1 & option 2) will be applied to different noise sensitive receivers. For mitigation option 2, more stringent environmental control will be required and implemented. The Contractor should pay particular attention to follow and carry out the mitigation measures mentioned in the EIA Report for those sensitive receivers to whom mitigation option 2 should be applied.

It is noted that for different construction phase quarters, the mitigation option will be different. The detailed environmental mitigation implementation schedule is shown in the EIA Report Annex A for different construction phases.

### 2.1.2 Landscape and Visual Mitigation Measures

Care should be taken not to damage those trees identified in the Tree Survey Report to be retained during the construction phase.

In case of conflict between the construction machine and the trees during the construction activities, the Contractor should consider adopting an alternative construction approach to protect the trees from being damaged. As the last resort, the tree transplanting method may be considered. However, prior to such action, approval from the Engineer, the Environmental Team Leader and the Independent Environmental Checker should be obtained.

Whenever tree transplanting is required, the Contractor should notify the ET in advance and should carry out the works under the supervision of a professional landscape architect as stipulated in the EM & A Manual.

### 3.0 MONITORING RESULTS

#### 3.1 Graphical plots of the monitored parameters

The graphical presentations of the monitored parameters during the reporting period are shown in Appendix G.

#### 3.2 Major Activities During the Reporting Period

Major activities during December 2004 include the followings:

- Retaining Wall 1 Construction
- Finishes in Subway 1 and 2
- Drainage in footpath.
- Landscaping works – Hydro-seeding

#### 3.3 Noise Monitoring Methodology

Construction noise monitoring was carried out by using a Sound Level Meter to ensure that exceedance in noise levels could be readily identified and timely action taken to reduce the noise levels to within allowable limits.

#### 3.4 Noise Monitoring Equipment

The approved integrating Sound Level Meter, Model No. CESVA SC20-e, in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specification as referred to in the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), was used for construction noise measurement.

#### 3.5 Calibration Details

A sound level calibrator, Model No. CESVA CB-5, was used to calibrate the Sound Level Meter before and after the measurement on site.

The sound level meter and calibrator have been recently taken to a laboratory for full calibration processes. A copy of calibration certificates conducted by Calibration and Testing Laboratory of Sun Creation Engineering Limited for the Sound Level Meter and the Sound Calibrator are attached in Appendix E.

#### 3.6 Noise Parameters

The construction noise levels were measured in terms of equivalent A-weighted sound pressure level ( $L_{eq}$ ) measured in decibels (dB).

$L_{eq(30min)}$  was used as the monitoring parameter for the time period between (0700 to 1900) hours on normal weekdays.

$L_{eq(5min)}$  was used as the monitoring parameter for all other time period, if applicable.

The two statistical sound levels  $L_{A10}$  and  $L_{A90}$ , the level exceeded for 10 and 90 percent of the measurement time respectively, were also recorded as supplementary information for reference.

The construction noise monitoring limit and action level is shown in Appendix I.

### 3.7 Monitoring Locations

The construction noise monitoring was conducted at two noise sensitive receivers, namely, CNM 1 (Wu Kwai Sha New Village) and CNM 2 (Kam Lung Court/ Lee On Estate).

Both measurement points for CNM 1 and CNM 2 are at façade.

Locations of construction noise monitoring stations and photos are shown in Appendix D.

### 3.8 Monitoring Date, Time, Frequency and Duration

The monitoring frequency will depend on the scale of the construction activities. The following was adopted as an initial arrangement of measurement on the regular monitoring frequency for each station on a per week basis when noise generating activities are underway:

- (a) one set of measurements between 0700 – 1900 hours on normal weekdays;
- (b) one set of measurements between 1900 – 2300 hours;
- (c) one set of measurements between 2300 – 0700 hours; and
- (d) one set of measurements between 0700 – 1900 hours on holidays

The time and duration of measurement are shown in the Appendix F. The construction noise monitoring schedule for December 2004 and January 2005 are shown in Appendix K.

### 3.9 Noise Monitoring Results

The data for noise monitoring is presented in Appendix F. Graphical representation of construction noise monitoring data is presented in Appendix G.

For CNM 1, the results show that during the reporting period, the noise level is on average 60.3 dB(A) which is below the noise limit level 75 dB(A).

For CNM 2, the results show that during the reporting period, the noise level is on average 66.3 dB(A) which is below the noise limit level 75 dB(A).

Construction noise monitoring was carried out on the 4<sup>th</sup>, 9<sup>th</sup>, 16<sup>th</sup>, 23<sup>rd</sup> and 30<sup>th</sup> of December 2004. All the measured noise levels recorded at the two monitoring stations were below the noise limit level.

The major noise sources during the reporting period included the machines operation in Contractor's construction activities such as drainage works and road works near Lee Wing House, and footbridge staircase construction near Residential Development at Wu Kai Sha DD 206.

Moreover, traffic noise of the heavy vehicles like trucks and buses along Sai Sha Road and residential noise are included in the measured noise level.

### 3.10 Weather Conditions

The weather conditions were mainly sunny and did not affect the environmental monitoring works during the reporting period. The weather conditions during the period are shown in the Appendix H.

### 3.11 Influencing Factors

The traffic noise from Sai Sha Road significantly contributed to the recorded noise level.

### 3.12 QA/QC Results and Detection Limits

The QC result(Calibration Certificates) is shown in Appendix E. The lower limit of the sound level meter for  $L_{eq}$  is 0 dB(A). The upper limit for  $L_{eq}$  is 137 dB(A).

#### 4.0 RECORD OF NON-COMPLIANCE OF THE ACTION AND LIMIT LEVELS, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

##### 4.1 Non-compliance of the Action and Limit Levels

###### 4.1.1 Noise

During the reporting period, the noise levels for the two monitoring stations were within the noise limit level.

##### 4.2 Written Complaints and Verbal Complaints

No written and verbal complaints were received during the reporting period.

The following table shows the summary for all the complaints received since the commencement of the Contract.

TOTAL NO. OF COMPLAINT	NO. OF COMPLAINT RECEIVED WITHIN REPORTING PERIOD	NO. OF COMPLAINT THAT IS STILL UNDER INVESTIGATION	NO. OF CLOSED COMPLAINT
1	0	0	1

The statistics for environmental complaints on the reporting period are shown in Appendix L.

##### 4.3 Notifications of Summons and Successful Prosecutions

No notifications of summons or successful prosecutions were received by the Contractor regarding the non-compliance of the environmental performance of the construction site during the reporting period.

## 5.0 OTHERS

### 5.1 Future Key Issue

In the coming month, the following activities will be undertaken.

- Retaining Wall Construction
- Noise Barrier Construction
- Footbridge Construction
- Drainage Work and Roadwork

Potential environmental impacts due to the above construction works are associated with construction dust, noise and site runoff.

The Contractor should clean out the sediments which block the stormwater U-channels within the site area. The Contractor should also remove any rubbish within the site area. In addition, the Contractor should exert himself to prevent the presence of accumulation of stagnant water to avoid the breeding of mosquitoes and the spread of dengue fever.

Nonetheless, with the implementation of the following mitigation measures, potential impacts to the surrounding sensitive receivers could be minimised.

#### *Construction Dust*

- Provide adequate water supply for the whole site area
- Regular watering of unpaved areas and the dry topsoil
- Regular watering during the demolition works such as the breaking of rigid pavement
- Cover the stockpiles with tarpaulin
- Investigate other dust sources
- Maintain onsite machinery and vehicles regularly
- Limit the speed of construction vehicles
- Maintain the water spraying system regularly

#### *Construction Noise*

- Carry out good site practice
- Use silenced plant and equipment
- Adopt quiet working methods
- Enclose powered mechanical equipment such as generators and compressors
- Shut down the machines and plant that may be in intermittent use between work periods or throttle them down to a minimum
- Provide temporary movable vertical barrier

#### *Construction Site Runoff*

- Direct the site runoff to the desilting facilities
- Desilt the site runoff before discharging it into the stormwater system.

## 5.2 Advice on the solid and liquid waste management status

### 5.2.1 General Refuse

General refuse may be generated by site workers. Bins shall be provided for containment prior to disposal. The Contractor should avoid the accumulation of waste materials or rubbish on site and regular waste disposal is required.

If there is any chemical waste or oil generated by the site, it should be properly treated and disposed of as chemical waste. If applicable, the Contractor should register as a chemical waste producer under the registration of the Department of Environmental Protection.

Environmental awareness shall be encouraged in the office so as to reduce volume of office waste.

#### 5.2.2 *Liquid Waste Management*

The accumulation of stagnant water within the construction site should be avoided to eliminate the breeding of mosquitoes. To achieve this, the Contractor should identify potential stagnant areas on the site, inspect the site regularly and take necessary rectifying action to ensure no mosquitoes can breed.

Larvicidal Oil shall be applied to stagnant water awaiting discharge, and stagnant water shall be discharged regularly to avoid accumulation.

To properly treat the silty water, the Contractor should provide sandbags/ bunds to direct site surface runoff to the desilting facilities such as sedimentation tanks. The desilting facilities should be properly operated and maintained. To avoid the breeding of mosquitoes and other insects, water from the sedimentation tank should be discharged regularly. Care should also be taken to ensure the capacity of the desilting facilities is sufficient to handle the surface runoff and to avoid overflow of the sedimentation tanks.

The desilting facilities should be maintained properly. Regular removal of the accumulated debris with proper disposal is recommended.

For the wastewater generated from the site area, the Contractor should identify the sources and wastewater should be collected and treated prior to disposal.



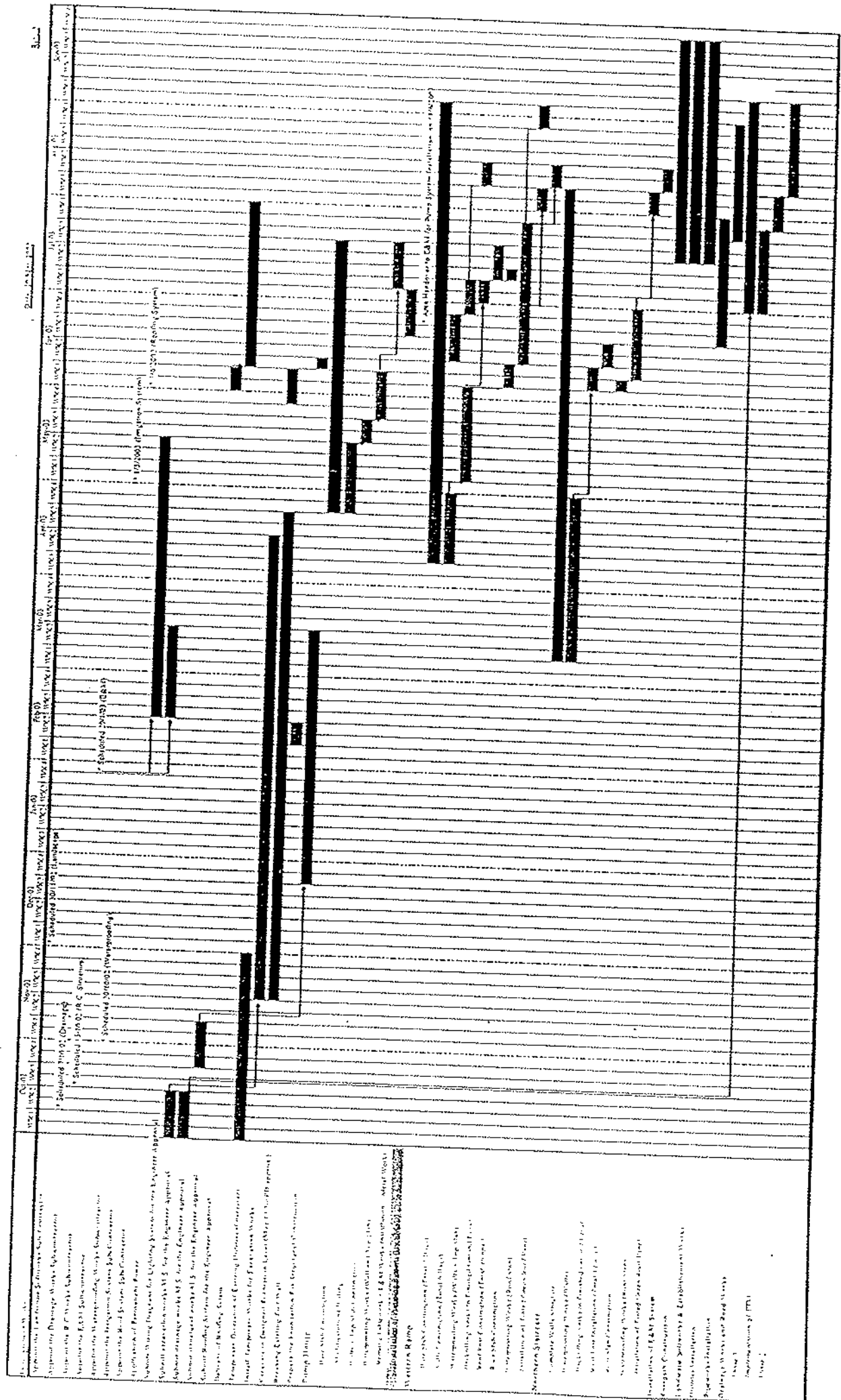


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## **APPENDIX A**

### CONSTRUCTION PROGRAMME

Detailed Work Breakdown Structure for Construction of Section 1 Work



Conditioning the Receipt for Completion of Section 1 Work

Section	Contractor	Start Date	End Date	Notes
100000	...	...	...	...
101000	...	...	...	...
102000	...	...	...	...
103000	...	...	...	...
104000	...	...	...	...
105000	...	...	...	...
106000	...	...	...	...
107000	...	...	...	...
108000	...	...	...	...
109000	...	...	...	...
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143000	...	...	...	...
144000	...	...	...	...
145000	...	...	...	...
146000	...	...	...	...
147000	...	...	...	...
148000	...	...	...	...
149000	...	...	...	...
150000	...	...	...	...

Quantity: 100

Section 1 Work to be completed by 10/31/2000  
 Section 2 Work to be completed by 11/30/2000  
 Section 3 Work to be completed by 12/31/2000

Section 4 Work to be completed by 1/31/2001  
 Section 5 Work to be completed by 2/28/2001  
 Section 6 Work to be completed by 3/31/2001

Section 7 Work to be completed by 4/30/2001  
 Section 8 Work to be completed by 5/31/2001  
 Section 9 Work to be completed by 6/30/2001

Section 10 Work to be completed by 7/31/2001  
 Section 11 Work to be completed by 8/31/2001  
 Section 12 Work to be completed by 9/30/2001

Section 13 Work to be completed by 10/31/2001  
 Section 14 Work to be completed by 11/30/2001  
 Section 15 Work to be completed by 12/31/2001

Section 16 Work to be completed by 1/31/2002  
 Section 17 Work to be completed by 2/28/2002  
 Section 18 Work to be completed by 3/31/2002

Item No.	Particulars	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11	Oct 11	Nov 11	Dec 11	Total
1	Administrative Expenses													
2	Printing & Stationery													
3	Travel & Transport													
4	Telephone & Postage													
5	Light & Power													
6	Repairs & Maintenance													
7	Medical Expenses													
8	Contingencies													
9	Grants-in-Aid													
10	Income Tax													
11	Depreciation													
12	Interest on Loans													
13	Income from Investments													
14	Other Income													
15	Transfer to Reserve													
16	Transfer to Contingency													
17	Transfer to Capital													
18	Transfer to Reserve													
19	Transfer to Contingency													
20	Transfer to Capital													
21	Transfer to Reserve													
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100	Transfer to Contingency													

Page 1 of 1



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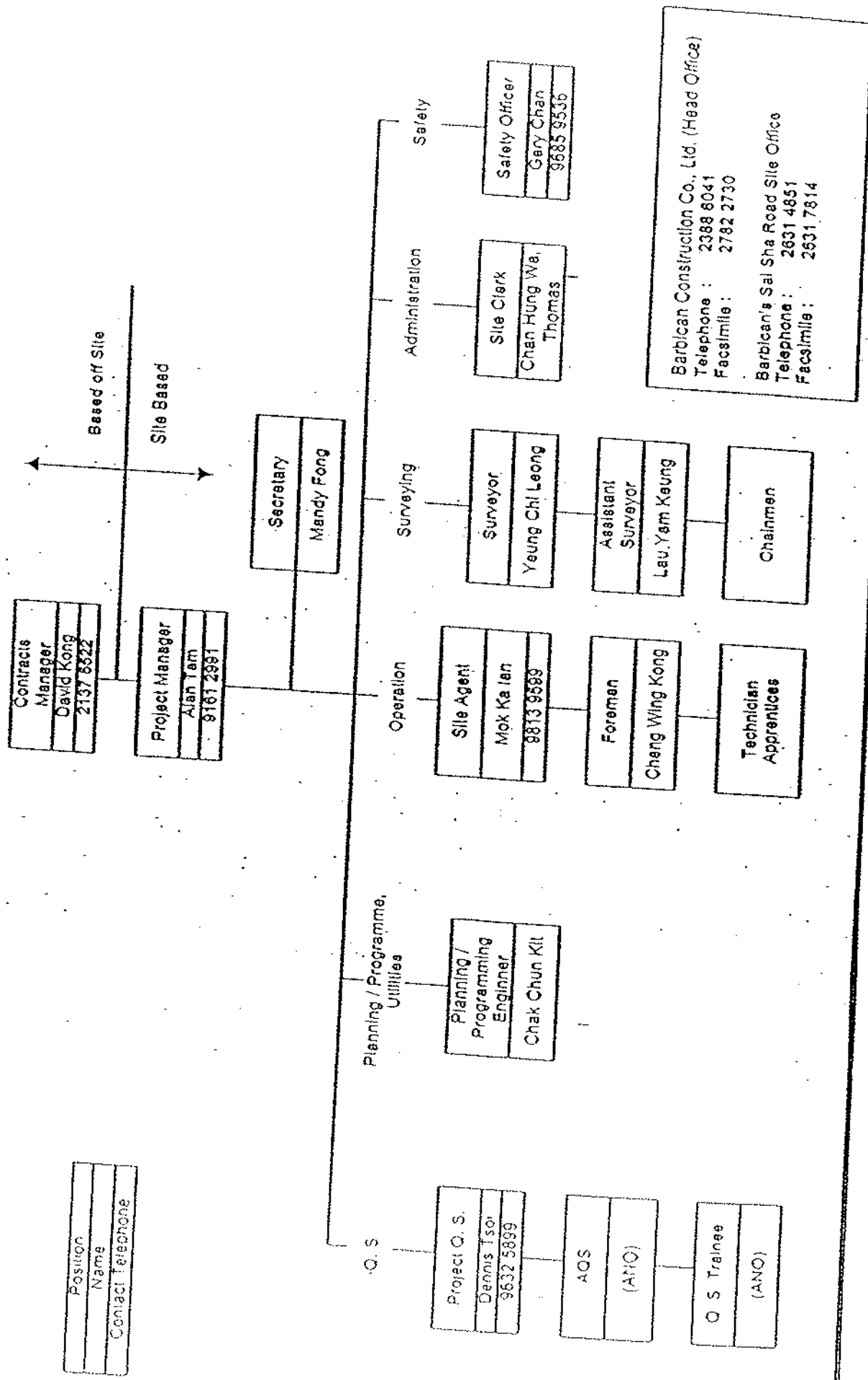
## **APPENDIX B**

### **SITE ORGANIZATION CHART**

Contract No. : HY/2001/18  
 Sai Sha Road Widening between  
 Kam Ying Road and Future Trunk Road T7 Junction

Date : 23 September 2002  
 Rev : C

Site Organization Chart





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## **APPENDIX C**

RECORD PHOTOS FOR CONSTRUCTION ACTIVITIES  
IN DECEMBER 2004





Date: 9 December 2004  
Location: Near DD206 Wu Kai Sha

Works: Road Works



Date: 9 December 2004  
Location: Near kam Lung Court

Works: Paying granite block





Date: 23 December 04

Works: Landscaping works

Location: Proposed Residential Development at DD206



Date: 9 December 04

Works: Tunnel Work

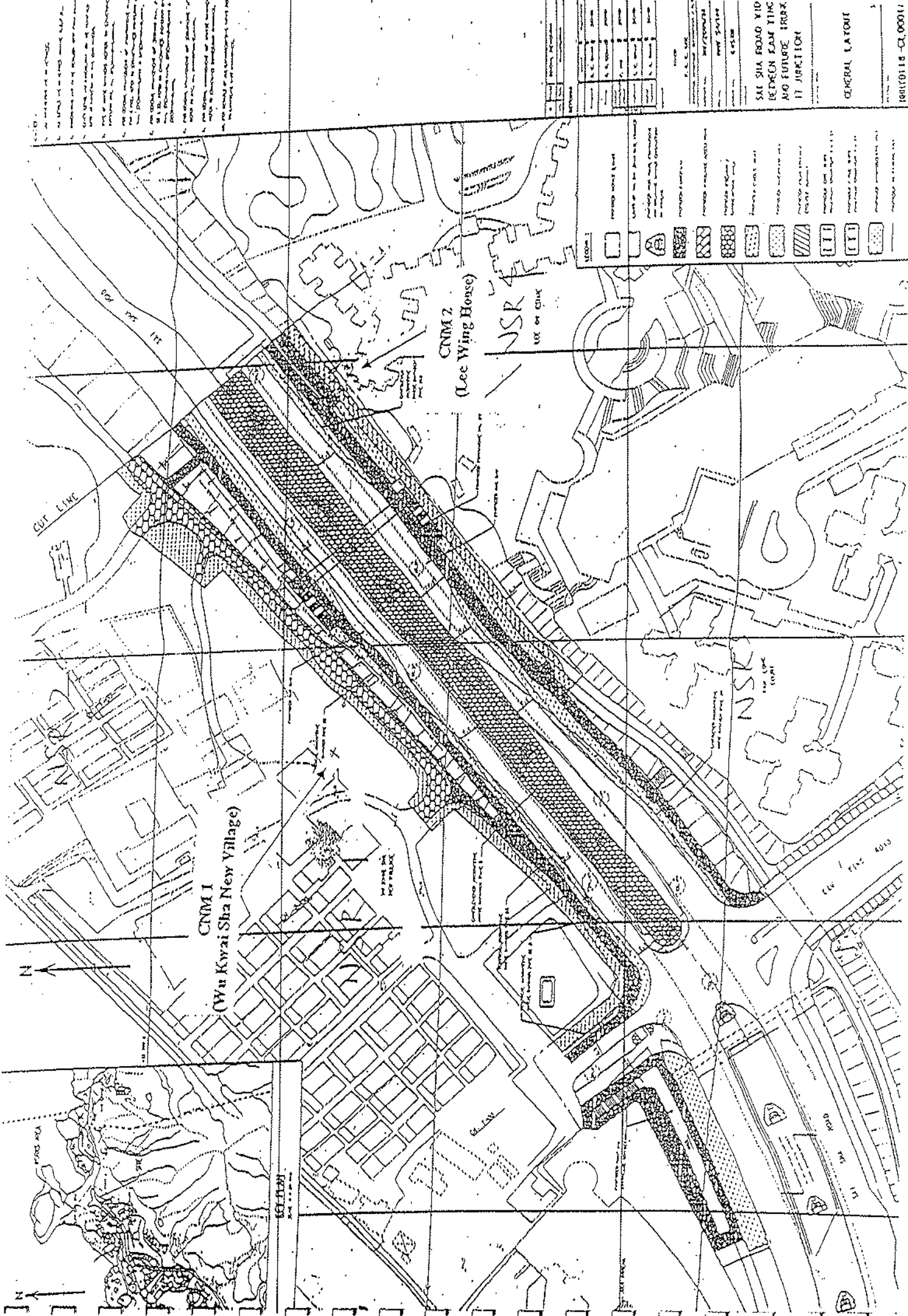
Location: Proposed Residential Development at DD206



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## **APPENDIX D**

THE PROJECT AREA, ENVIRONMENTAL SENSITIVE RECEIVERS  
AND THE LOCATIONS OF THE MONITORING STATIONS



1. The site is situated on a hillside...  
 2. The proposed development...  
 3. The site is bounded by...  
 4. The proposed development...  
 5. The site is bounded by...  
 6. The proposed development...  
 7. The site is bounded by...  
 8. The proposed development...  
 9. The site is bounded by...  
 10. The proposed development...

NO.	DESCRIPTION	SCALE
1	Proposed Development	1:1000
2	Existing Buildings	1:1000
3	Proposed Road	1:1000
4	Proposed Footpath	1:1000
5	Proposed Drainage	1:1000
6	Proposed Fencing	1:1000
7	Proposed Landscaping	1:1000
8	Proposed Utilities	1:1000
9	Proposed Other	1:1000

SUI SIA ROAD YID  
 BETWEEN EAST TING  
 AND FUTURE TRUX  
 IT JUNCTION  
 GENERAL LAYOUT

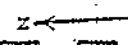
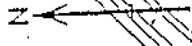
10/11/01/18 - CL/00011

CNM1  
 (Wu Kwai Sha New Village)

CNM2  
 (Lee Wing House)

NSR  
 (NSR on site)

NSR  
 (NSR on site)



SECTION  
 A-A

CUT LINE

CUT LINE





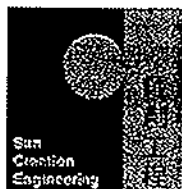
Monitoring Point CNM 1 – Wu Kwai Sha New Village



Monitoring Point CNM 2 – Lee Wing House of Lee On Estate



**APPENDIX E**  
**CALIBRATION CERTIFICATES FOR SOUND LEVEL METER**



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C044090

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Meter (E01-010)*

*Manufacturer : Cesva*

*Model No. : SC-20e*

*Serial No. : T214258*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C044090.*

*The equipment is supplied by*

*Co. Name : HONKEI TECHNOLOGY*

*Address : Rm. 2501, 25/F., Ho King Comm. Centre, 2-16 Fa Yuen St.,  
Mongkok, Kowloon*

*Date of Issue : 14 September 2004*

*Certified by : Chen Han Cy  
H C Chan*

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.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o G/F, LCK Telephone Exchange Building, 2 Yuet Lun Street, Lai Chi Kok, Kowloon, Hong Kong.  
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C044089

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Calibrator (E01-011)*

*Manufacturer : Cesva*

*Model No. : CB-5*

*Serial No. : 031198*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C044089.*

*The equipment is supplied by*

*Co. Name : HONKEI TECHNOLOGY*

*Address : Rm. 2501, 25/F., Ho King Comm. Centre, 2-16 Fa Yuen St.,  
Mongkok, Kowloon*

*Date of Issue : 14 September 2004*

*Certified by : Chan Hon Si  
H C Chan*

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
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Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com



**APPENDIX F**

DATA OF NOISE MONITORING



**Contract No. HY/2001/18**  
**Sai Sha Road Widening between Kam Ying Road**  
**and Future Trunk Road T7 Junction**  
**Monitoring Location: Wu Kwai Sha New Village (CNM 1)**  
**Time Period 7:00-19:00**

Date	Start Time	Duration (min)	Measurement Results								
			L <sub>90</sub> (dB(A))	L <sub>10</sub> (dB(A))	L <sub>eq</sub> (dB(A)) (5 mins)			L <sub>eq</sub> (dB(A)) (30 mins)			
12/04/04	11:00	30	53.1	63.6	54.7	59.0	62.4	61.0	64.8	60.1	60.3
12/09/04	10:35	30	52.2	59.1	57.3	59.6	58.1	56.6	56.1	-	57.5
12/16/04	11:40	30	51.9	66.4	59.2	63.4	67.9	63.9	58.0	56.2	61.4
12/23/04	10:50	30	48.9	56.7	52.5	56.7	57.7	54.7	61.2	59.8	57.1
12/30/04	11:40	30	59.2	64.6	72.4	61.1	62.7	64.0	66.7	65.4	65.4

**Contract No. HY/2001/18**  
**Sai Sha Road Widening between Kam Ying Road**  
**and Future Trunk Road T7 Junction**  
**Monitoring Location: Kam Lung Court (CNM 2)**  
**Time Period 7:00-19:00**

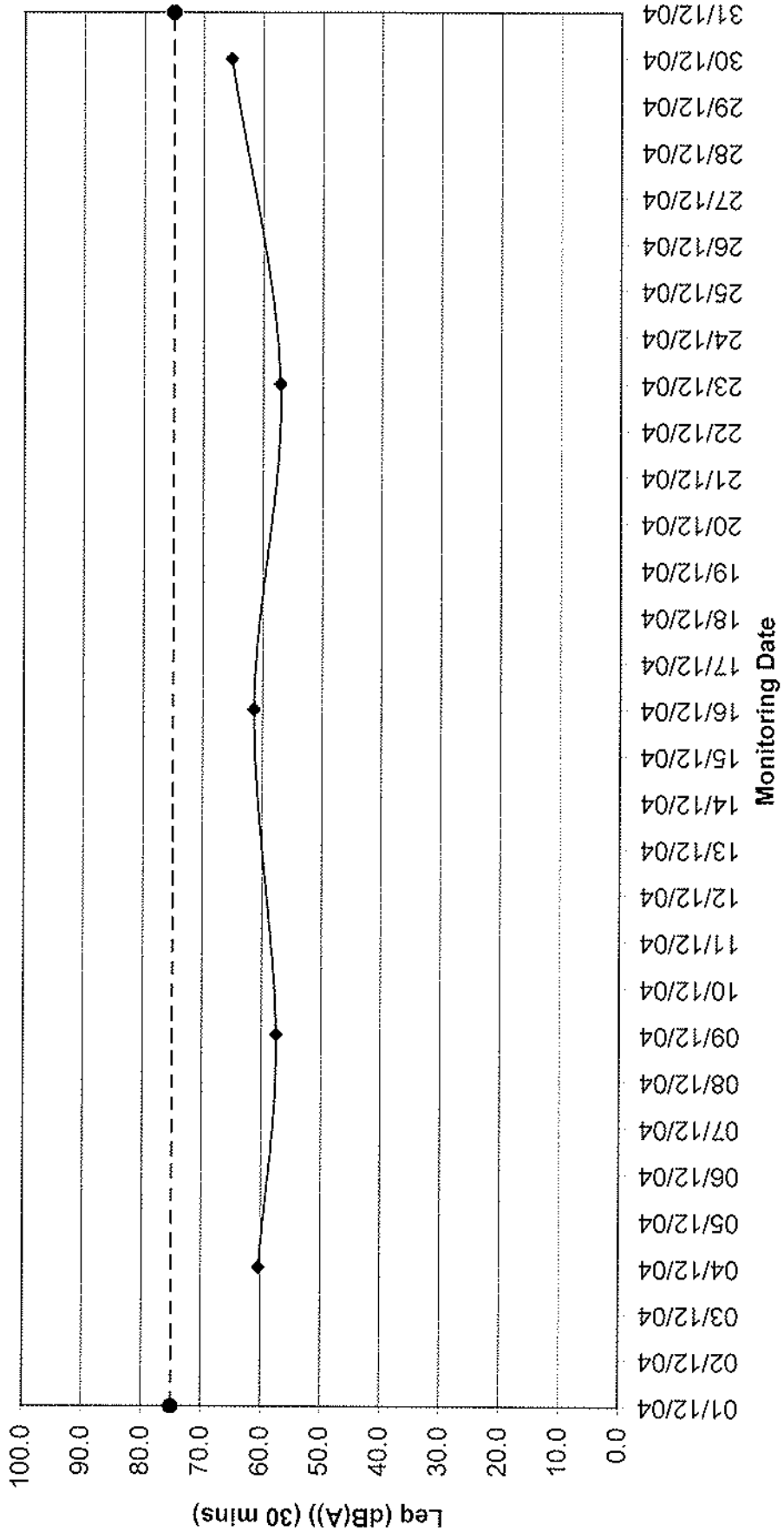
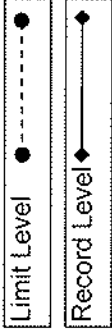
Date	Start Time	Duration (min)	Measurement Results								
			L <sub>90</sub> (dB(A))	L <sub>10</sub> (dB(A))	L <sub>eq</sub> (dB(A)) (5 mins)			L <sub>eq</sub> (dB(A)) (30 mins)			
12/04/04	11:40	30	59.0	66.4	68.3	63.3	63.5	63.2	63.6	65.5	64.6
12/09/04	10:00	30	65.8	70.7	71.2	67.0	68.6	68.8	69.0	68.5	68.9
12/16/04	11:00	30	59.9	67.7	65.2	65.0	66.3	64.7	64.4	65.1	65.1
12/23/04	11:30	30	59.9	69.0	63.3	64.9	66.9	70.4	65.0	66.1	66.1
12/30/04	11:00	30	63.9	69.0	65.8	68.4	67.9	66.9	66.6	66.1	67.0



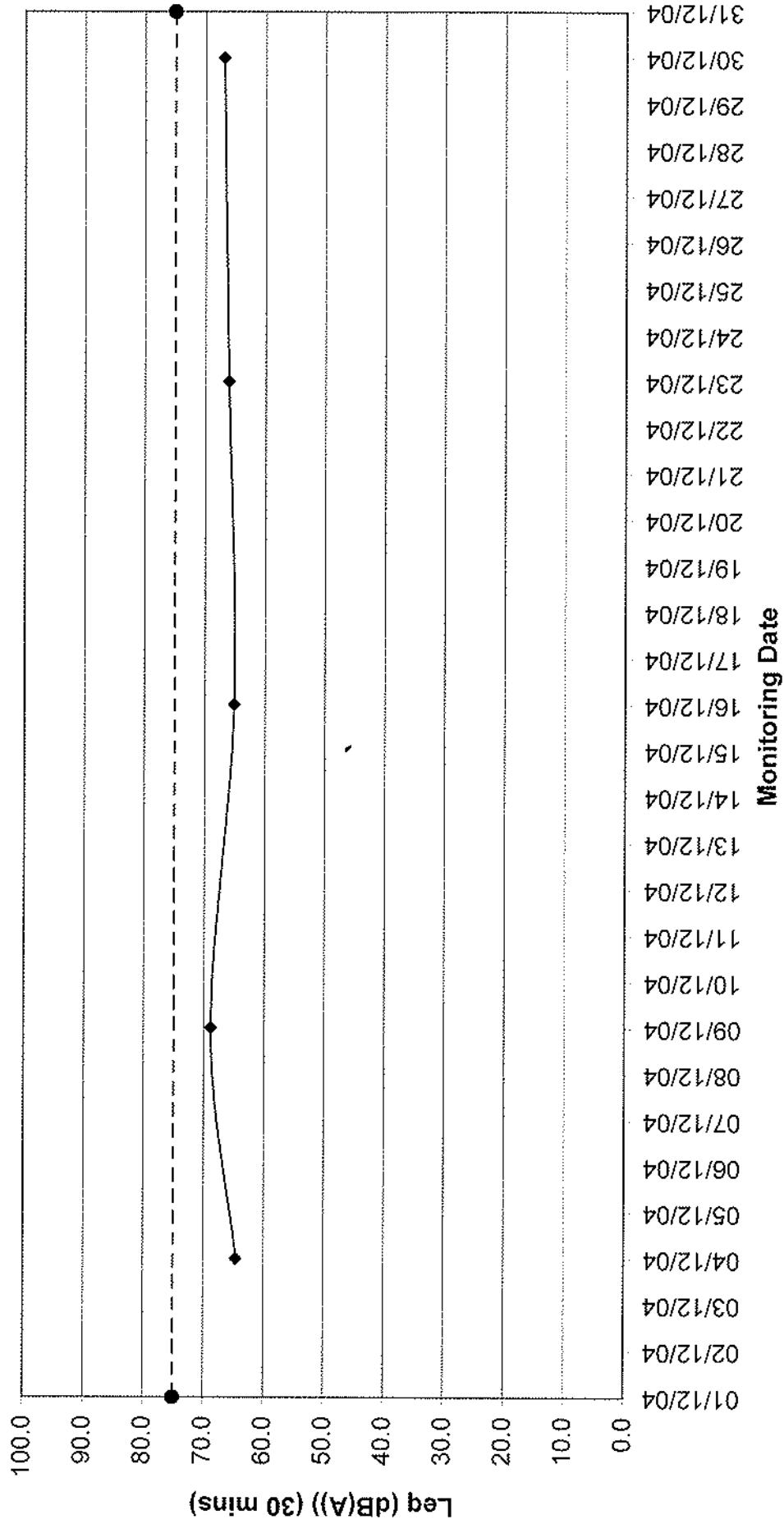
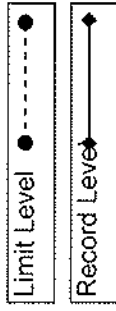
## **APPENDIX G**

### GRAPHICAL REPRESENTATION OF CONSTRUCTION NOISE MONITORING DATA

## Construction Noise Monitoring Results Wu Kwai Sha New Village (CNM 1)



## Construction Noise Monitoring Results Kam Lung Court (CNM 2)





**APPENDIX H**  
WEATHER CONDITIONS  
DURING THE MONITORING PERIOD

**Contract No. HY/2001/18**  
**Sai Sha Road Widening between Kam Ying Road**  
**and Future Trunk Road T7 Junction**  
**Major Activity and Weather Condition During Baseline Monitoring**  
**Monitoring Location: Wu Kwai Sha New Village (CNM 1)**

<b>Date</b>	<b>Start Time</b>	<b>Weather Condition</b>	<b>Major Activities</b>	<b>Other Activities</b>
12/04/04	11:00	Sunny	Nil	Traffic, Pedestrian
12/09/04	10:35	Sunny	Nil	Traffic, Pedestrian
12/16/04	11:40	Sunny	Nil	Traffic, Pedestrian
12/23/04	10:50	Sunny	Nil	Traffic, Pedestrian
12/30/04	11:40	Sunny	Nil	Traffic, Pedestrian

**Contract No. HY/2001/18**  
**Sai Sha Road Widening between Kam Ying Road**  
**and Future Trunk Road T7 Junction**  
**Major Activity and Weather Condition During Baseline Monitoring**  
**Monitoring Location: Kam Lung Court (CNM 2)**

Date	Start Time	Weather Condition	Major Activities	Other Activities
12/04/04	11:40	Sunny	Nil	Traffic, Pedestrian
12/09/04	10:00	Sunny	Nil	Traffic, Pedestrian
12/16/04	11:00	Sunny	Nil	Traffic, Pedestrian
12/23/04	11:30	Sunny	Nil	Traffic, Pedestrian
12/30/04	11:00	Sunny	Nil	Traffic, Pedestrian





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**APPENDIX I**  
CONSTRUCTION NOISE MONITORING LIMIT ACTION LEVEL

According to Section 2.7 of the *EM & A Manual*, the Action and Limit Noise Levels are summarised in the following table:

Time Period	Action	Limit Level
0700-1900 hours on normal weekdays	When one documented complaint is received	75 dB(A)
0700-2300 hours on holidays; and 1900-2300 hours on all other days		70 dB(A)
2300-0700 hours of next day		55 dB(A)

*Note: The noise limit level for all the NSRs within this contract is 75dB(A).*



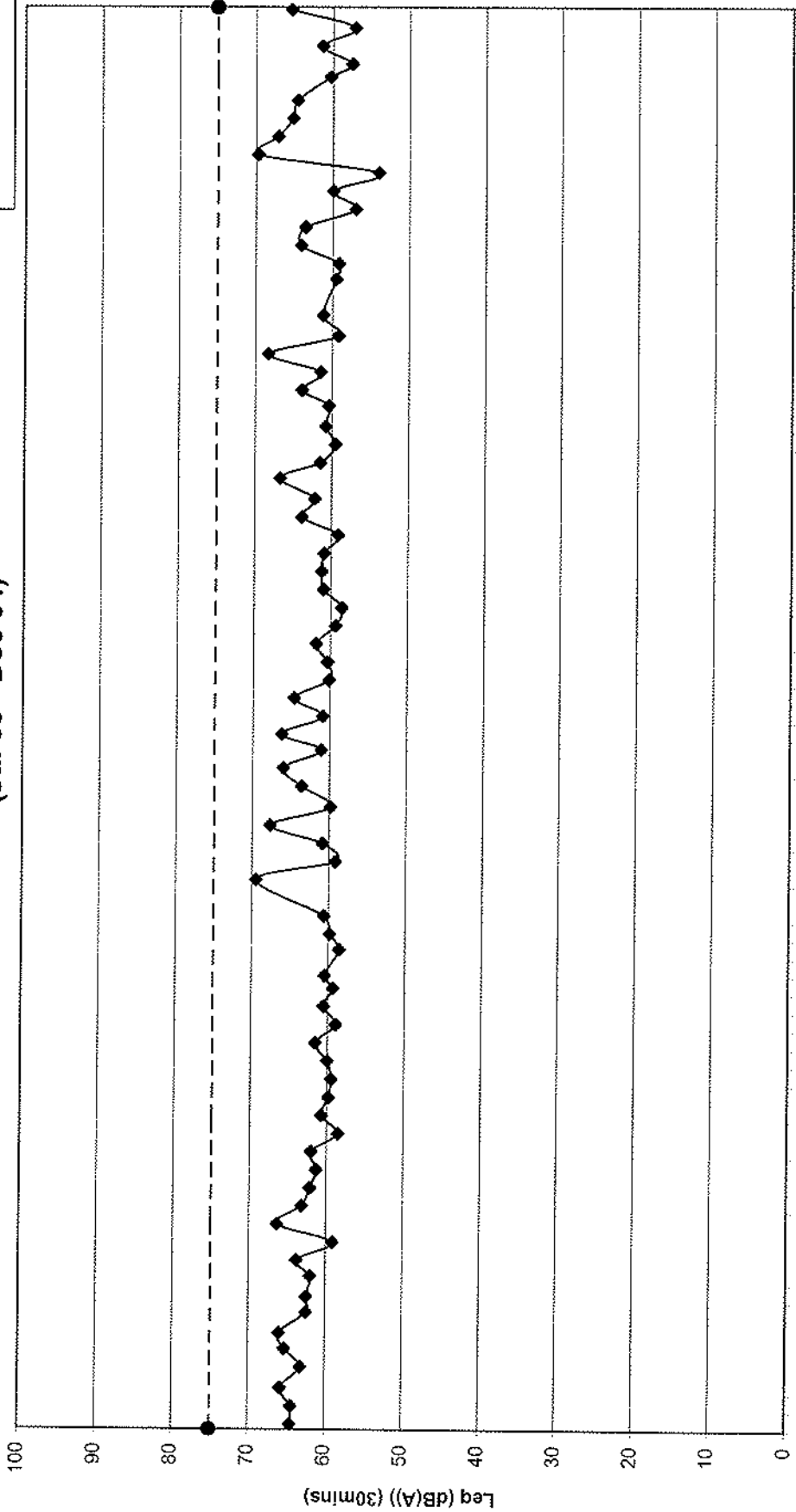
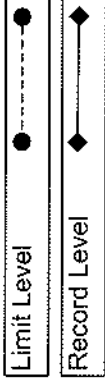
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## **APPENDIX J**

### **GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS**

# Graphical Noise Parameters for Wu Kwai Sha New Village (CNM 1)

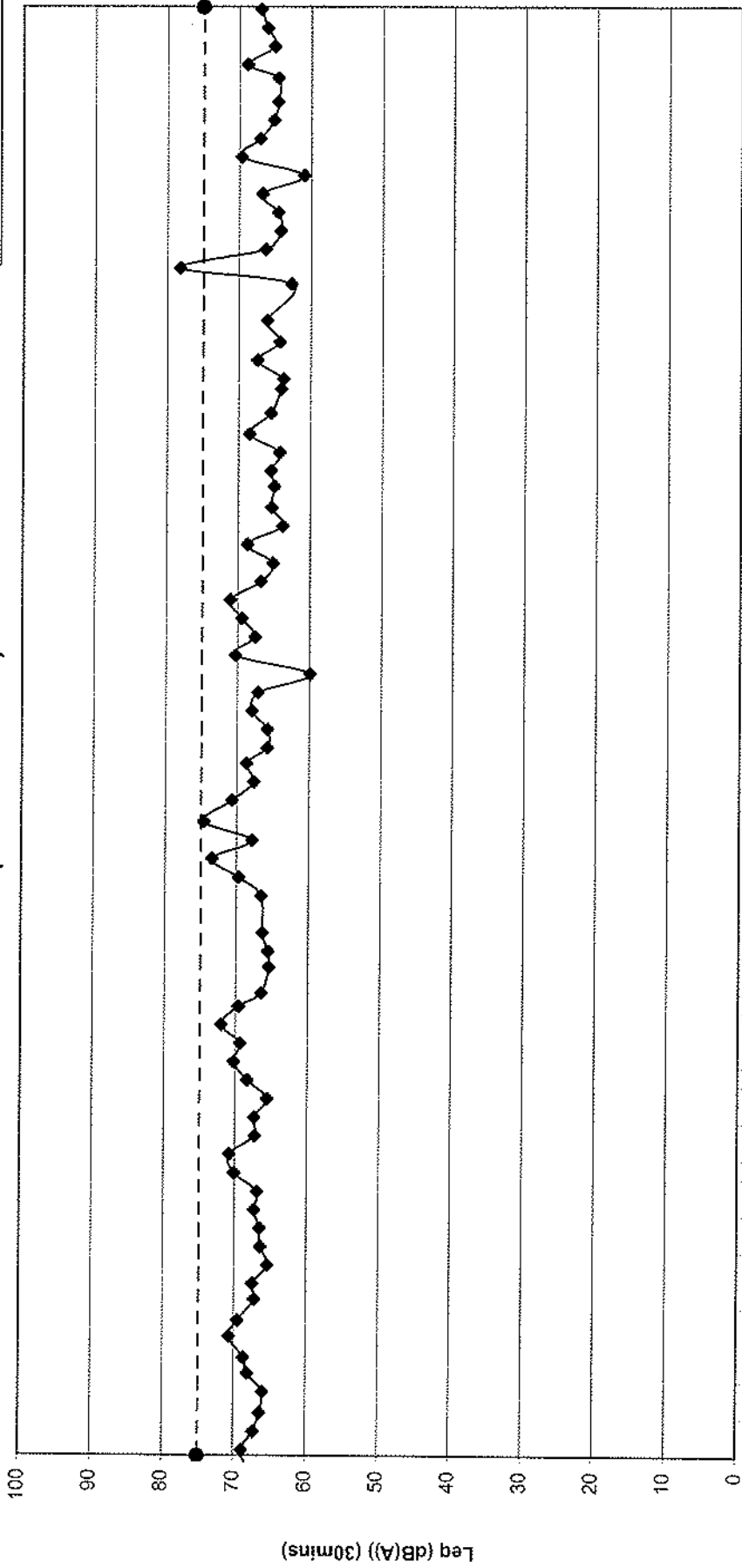
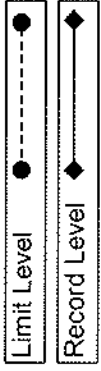
(Jul 03 - Dec 04)



01/07/03  
08/07/03  
15/07/03  
22/07/03  
29/07/03  
05/08/03  
12/08/03  
19/08/03  
26/08/03  
02/09/03  
09/09/03  
16/09/03  
23/09/03  
30/09/03  
07/10/03  
14/10/03  
21/10/03  
28/10/03  
04/11/03  
11/11/03  
18/11/03  
25/11/03  
02/12/03  
09/12/03  
16/12/03  
23/12/03  
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06/01/04  
13/01/04  
20/01/04  
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21/09/04  
28/09/04  
05/10/04  
12/10/04  
19/10/04  
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02/11/04  
09/11/04  
16/11/04  
23/11/04  
30/11/04  
07/12/04  
14/12/04  
21/12/04  
28/12/04

Monitoring Date

## Graphical Noise Parameters for Kam Lung Court (CNM 2) (Jul 03 - Dec 04)



01/07/03  
08/07/03  
15/07/03  
22/07/03  
29/07/03  
05/08/03  
12/08/03  
19/08/03  
26/08/03  
02/09/03  
09/09/03  
16/09/03  
23/09/03  
30/09/03  
07/10/03  
14/10/03  
21/10/03  
28/10/03  
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19/10/04  
26/10/04  
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16/11/04  
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30/11/04  
07/12/04  
14/12/04  
21/12/04  
28/12/04

Monitoring Date



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**APPENDIX K**  
CONSTRUCTION NOISE MONITORING AND SITE AUDIT SCHEDULES  
DECEMBER 2004 AND JANUARY 2005

Job No. : G/2563.01  
 Contract No. HY/2001/18  
 Sai Sha Road Widening between Kam Ying Road and Future Trunk Road T7 Junction

**Construction Noise Monitoring Schedule**

**December 2004 - January 2005**

Location Point	Monitoring Parameter	Measurement Start Time			
		04/12/2004 (Saturday)	09/12/2004 (Thursday)	16/12/2004 (Thursday)	23/12/2004 (Thursday)
CNM 1	Leq(30 min)	11:00	10:35	11:40	10:50
CNM 2	Leq(30 min)	11:40	10:00	11:00	11:30

Location Point	Monitoring Parameter	Measurement Start Time		
		06/01/2005 (Thursday)	13/01/2005 (Thursday)	20/01/2005 (Thursday)
CNM 1	Leq(30 min)	10:00	10:00	10:00
CNM 2	Leq(30 min)	10:40	10:40	10:40

\* Note: In case of poor weather condition on the monitoring date, we will inform the Contractor to arrange another construction noise impact monitoring in a day in the same week.



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## **APPENDIX L**

### STATISTICS FOR ENVIRONMENTAL COMPLAINTS



**Contract No. HY/2001/18  
Sai Sha Road Widening between Kam Ying Road  
and Future Trunk Road T7 Junction**

**Statistic for Environmental Complaint  
December 2004**

