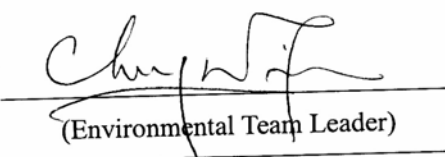


**Highways Department**

**Route 8 (previously known as Route 9) between  
Cheung Sha Wan & Sha Tin**  
**Contract No. HY/2003/10 - Environmental Team for  
Lai Chi Kok Viaduct and Eagle's Nest Tunnel**  
**Monthly EM&A Report**  
**Part II – Eagle's Nest Tunnel & Associated Works**  
**(Version 1.1)**  
January 2007

Approved By   
(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

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## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
Introduction.....	1
Environmental Monitoring and Audit Works .....	1
Environmental Licenses and Permits.....	2
Key Information in the Reporting Month .....	2
<b>1. INTRODUCTION.....</b>	<b>3</b>
Background .....	3
Project Organizations.....	4
Construction Programme .....	4
Summary of EM&A Requirements .....	5
<b>2. AIR QUALITY.....</b>	<b>7</b>
Monitoring Requirements .....	7
Monitoring Locations .....	7
Monitoring Equipment.....	7
Monitoring Parameters, Frequency and Duration.....	7
Monitoring Methodology and QA/QC Procedure .....	8
Results and Observations.....	9
<b>3. NOISE .....</b>	<b>10</b>
Monitoring Requirements .....	10
Monitoring Locations .....	10
Monitoring Equipment.....	11
Monitoring Parameters, Frequency and Duration.....	11
Monitoring Methodology and QA/QC Procedures.....	11
Maintenance and Calibration .....	12
Results and Observations.....	12
<b>4. ENVIRONMENTAL AUDIT .....</b>	<b>13</b>
Site Audits.....	13
Review of Environmental Monitoring Procedures .....	13
Status of Environmental Licensing and Permitting .....	13
Implementation Status of Environmental Mitigation Measures.....	13
Summary of Exceedances .....	16
Implementation Status of Event Action Plans .....	17
Summary of Complaints and Prosecutions .....	17
<b>5. FUTURE KEY ISSUES.....</b>	<b>18</b>
Key Issues for the Coming Month.....	18
Monitoring Schedule for the Next Month.....	18
Construction Program for the Next Month .....	18
<b>6. CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>20</b>
Conclusions.....	20
Recommendations.....	20

## **LIST OF TABLES**

Table I	Summary Table for Events Recorded in the Reporting Month
Table II	Summary Table for Key Information in the Reporting Month
Table 1.1	Key Project Contacts
Table 2.1	Locations for Air Quality Monitoring
Table 2.2	Air Quality Monitoring Equipment
Table 2.3	Impact Dust Monitoring Parameters, Frequency and Duration
Table 3.1	Noise Monitoring Stations
Table 3.2	Noise Monitoring Equipment
Table 3.3	Noise Monitoring Parameters, Frequency and Duration
Table 4.1	Summary of Environmental Licensing and Permit Status
Table 4.2	Observations and Recommendations of Site Audit

## **LIST OF FIGURES**

Figure 1a	Locations of Monitoring Stations
Figure 1b	Locations of Monitoring Stations

## **LIST OF APPENDICES**

A	Action and Limit Levels for Air Quality and Noise
B	Copies of Calibration Certificates
C	Environmental Monitoring Schedules
D	Wind Data
E	1-hour TSP Monitoring Results and Graphical Presentations
F	24-hour TSP Monitoring Results and Graphical Presentations
G	Noise Monitoring Results and Graphical Presentations
H	Summary of Exceedance
I	Site Audit Summary
J	Event Action Plans
K	Environmental Mitigation Implementation Schedule (EMIS)
L	Construction Programme
M	Complaint Log

## ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
TSP	Total Suspended Particulates
TDD	Territory Development Department
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

**EXECUTIVE SUMMARY****Introduction**

- This is the 38<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the “Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin, Lai Chi Kok Viaduct & Eagle's Nest Tunnel”. This report documents the findings of EM&A Works conducted in January 2007 for Contract No. HY/2003/02, Eagle's Nest Tunnel and Associated Works (the Project).
- The major site activities for civil works undertaken in the reporting month included Sreeding, Rendering, Fire Services, Mechanical Ventilation Air Conditioning, T&C for HV, LV cable & switchboard, Plumbing & drainage and Tunnel Ventilation System.
- The major site activities for Traffic Control and Surveillance System (TCSS) works undertaken in the reporting month included:
  - Cable Laying; and
  - Field Equipment Installation.

**Environmental Monitoring and Audit Works**

- Environmental monitoring and audit works for the Project was performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- Summary of events and actions taken in the reporting month is tabulated in **Table I**.

**Table I Summary of Events Recorded in the Reporting Month**

<i>Parameter</i>	<i>No. of Events</i>		<i>No. of Events Due to the Project</i>	<i>Action Taken</i>
	<i>Action Level</i>	<i>Limit Level</i>		
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	0	0	0	N/A

**Environmental Licenses and Permits**

- Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Registration of Chemical Waste Producer (RCWP), Construction Noise Permits (CNPs) and Water Discharge Licenses (WDLs). No new CNP was issued to the Project by EPD in the reporting month.

**Key Information in the Reporting Month**

- Summary of key information in this reporting month is tabulated in **Table II**.

**Table II Summary Table for Key Information in the Reporting Month**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---
<b><u>Future Key Issues:</u></b>					
<p>Major site activities for civil works in the coming months include:</p> <ul style="list-style-type: none"> <li>Louvre / Cladding, Door &amp; Hand Rail Installation;</li> <li>Shotcreting;</li> <li>Screeding;</li> <li>Rendering;</li> <li>Vent Shaft erection;</li> <li>Tunnel Ventilation System;</li> <li>T&amp;C for HV, LV cable &amp; switchboard;</li> <li>Fire Services;</li> <li>Mechanical Ventilation Air Conditioning; and</li> <li>Drainage Works &amp; Road works.</li> </ul> <p>Major site activities for TCSS works in the coming months include:</p> <ul style="list-style-type: none"> <li>Cable Laying;</li> <li>Field Equipment Installation;</li> <li>Control Equipment Installation;</li> <li>Antenna Pole Installation; and</li> <li>Highmast Installation.</li> </ul> <p>The anticipated environmental issues will be mainly on dust impact from shotcreting, drainage and road works.</p>					

## 1. INTRODUCTION

### Background

- 1.1 Route 9 (Kowloon Section) (R9K) (hereinafter call the R9K-Project) forms part of the Route 9 between Cheung Sha Wan and Sha Tin (R9-CSWST) project, which will be a new expressway connecting West Kowloon and Sha Tin. It will be the fourth external link between Sha Tin and Kowloon and will form an important link between the northeast New Territories and the west Kowloon, Lantau Island and the western New Territories. R9K is being managed and implemented by the Highways Department (HyD).
- 1.2 The engineering design of R9K is covered under Agreement No. CE 50/98 "Route 9 between Cheung Sha Wan and Sha Tin – Design Construction Assignment". The main consultant engaged under Agreement No. CE 50/98 is Maunsell Hyder Joint Venture (MHJV), who acts as the Engineer for the construction contracts. The works of R9K mainly comprise a 1.4km dual 3-lane Lai Chi Kok Viaduct from Lai Wan Interchange to Butterfly Valley; 0.5 km of dual 3-lane at-grade carriageway linking to the 2.1 km dual 3-lane twin-bore Eagle's Nest Tunnel with associated portal buildings; a toll plaza with an administration building located with the Sha Tin valley woodland; a ventilation building and an adit; associated noise barriers, noise enclosures, drainage, slope and landscape works; and electrical and mechanical works for the whole R9-CSWST. The remainder of the R9-CSWST forms the Sha Tin Section (R9S) of the project and is being managed and implemented separately by the Civil Engineering and Development Department (CEDD).
- 1.3 The R9-CSWST project is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). An environmental impact assessment (EIA) report has been prepared in 1998 for the R9-CSWST project (1998 R9 EIA) to consider the key issues of noise, air quality, water quality, ecological, construction waste, landscape and visual, land use and cultural impacts, and identify possible mitigation measures.
- 1.4 An Updated Final EIA report was subsequently completed in August 1999 for the R9-CSWST project (1999 R9 EIA), to cater for some changes in R9K portion as mentioned in paragraph 1 of the report. The 1999 R9 EIA was endorsed by Environmental Protection Department (EPD) in November 1999. The 1998 R9 EIA and the 1999 R9 EIA (R9 EIA Reports) were included in the EIA register under the EIAO as report no. EIA-135/BC and AEIAR-022/1999 respectively. An Environmental Monitoring and Audit (EM&A) Manuals for each of the R9 EIA Reports (EM&A Manuals) were also included as part of the EIA reports in the register.
- 1.5 Subsequent to the endorsement of the R9 EIA Reports by EPD in November 1999, the project programme was deferred to start in 2002/2003 for completion by 2006/07. The implementation of the project was then separated into the R9S and R9K portion. An Environmental Permit (EP) No. EP-103/2001 was issued on 17 September 2001 for R9K to the HyD as Permit Holder and a varied EP No. EP-103/2001/A was subsequently issued on 20 May 2003 for R9K (R9K EP) to HyD as Permit Holder. A varied EP-103/2001/C was recently issued on 22 July 2005.

- 1.6 The major construction activities of two civil contracts of the R9K project, Contract No. HY/2003/01 entitled “Route 9 – Lai Chi Kok Viaduct” and Contract No. HY/2003/02 entitled “Route 9 – Eagle’s Nest Tunnel and Associated Works”, were commenced on 15<sup>th</sup> December 2003 for completion in April 2007.
- 1.7 “Route 9” was recently re-tiled as “Route 8 (previously known as Route 9)”. Cinotech Consultants Limited (Cinotech) was commissioned by HyD to undertake the Environmental Monitoring and Audit works for “Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin - Environmental Team (ET) for Lai Chi Kok Viaduct and Eagle’s Nest Tunnel (Contract No. HY/2003/10)”. Dr. Priscilla CHOY of Cinotech Consultants Ltd. was appointed as the ET Leader under Condition 2.2 of the EP. Mr. David YEUNG of CH2M HILL Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the 38<sup>th</sup> monthly EM&A report summarizing the EM&A works for the Project in January 2007.

### **Project Organizations**

- 1.8 Different parties with different levels of involvement in the project organization include:
- Project Proponent – Major Works Project Management Office (MWPMO) of Highways Department (HyD)
  - Engineer / Engineer’s Representative (E/ER) – Maunsell-Hyder Joint Venture (MHJV)
  - Environmental Team (ET) – Cinotech Consultants Limited
  - Independent Environmental Checker (IEC) – CH2M HILL Hong Kong Ltd.
  - Contractor – Leighton-Kumagai Joint Venture (LKJV)
  - Engineer’s Representative for TCSS works – Ove Arup & Partners Hong Kong Limited
  - Contractor for TCSS works – Delcan-Imtech-Gtech Joint Venture
- 1.9 The responsibilities of respective parties are detailed in Section 1.8.3 of the EM&A Manual (1999) of the Project.
- 1.10 The key contacts of the Project are shown in **Table 1.1**.

### **Construction Programme**

The major site activities for civil works undertaken in the reporting month included Sreeding, Rendering, Fire Services, Mechanical Ventilation Air Conditioning, T&C for HV, LV cable & switchboard, Plumbing & drainage and Tunnel Ventilation System.

- 1.11 The major site activities for TCSS works undertaken in the reporting month included:
- Cable Laying; and
  - Field Equipment Installation;



**Table 1.1 Key Project Contacts**

Party	Role	Name	Position	Phone No.	Fax No.
HyD	Permit Holder	Mr. Kroc Leung	SE2/R8K	2762 3662	2714 5198
		Mr. George Law	E4/R8K	2762 3675	
MHJV	Engineer	Mr. Conrad Ng	Project Manager	2605 6262	2691 2649
	Engineer's Representative	Mr. Peter Poon	CRE	3552 2500	2743 9200
		Mr. Eric Wong	RE (S & EP)	3552 2551	
		Ms. Sammie Chan	TO (EN)	3552 2605	
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	3107 1388
		Mr. Jesse Yuen	Project Manager	2151 2091	
		Mr. Edmond Wu	Project Coordinator	2151 2092	
		Mr. Ray Yan	Audit Team Leader	2947 8682	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
CH2M	Independent Environmental Checker	Mr. David Yeung	Independent Environmental Checker	2507 2203	2507 2293
		Mr. Billy Yu	Assistant Independent Environmental Checker	2872 2949	
LKJV	Contractor	Mr. Ray Brewster	Project Director	9092 6128	2743 1600
		Mr. Danny Cheng	QA/E Manager	3552 2113	
ARUP	Engineer's Representative (TCSS)	Mr. Donald Leung	RE	2436 7489	2436 1803
		Mr. Joseph Chow	ARE	2436 7435	
DIGJV	Contractor (TCSS)	Ms. Joyce Chan	Quality Manager	2123 0845	2123 0889
Enquiries Hotline				3552 2226	-
Complaint Hotline				3552 2380	-

### Summary of EM&A Requirements

1.12 The EM&A programme requires construction phase monitoring for air quality and construction noise, and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event / Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.13 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 4 of this report.

- 1.14 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely dust and noise levels and audit works for the Project in the reporting month.

## 2. AIR QUALITY

### Monitoring Requirements

- 2.1 Monitoring of 1-hour and 24-hour TSP was conducted to monitor the air quality. The established Action/Limit Levels for the environmental monitoring works were shown in **Appendix A**.

### Monitoring Locations

- 2.2 Three designated monitoring stations, AM1, AM3 and AM4 was selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1a** and **1b**.

**Table 2.1 Locations for Air Quality Monitoring**

Station	Description	Location
AM1	Yew Chung International School / PLK Choi Kai Yau School	Rooftop
AM3	Slope no. 07SW-D/FR4 near Garden Villa	On Ground
AM4	Government Quarters	Ground Floor <sup>1</sup>

Note: <sup>1</sup>The HVS was installed on the ground floor, which is close to the refuse collection station of the Government Quarters.

### Monitoring Equipment

- 2.3 **Table 2.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix B**.

**Table 2.2 Air Quality Monitoring Equipment**

Equipment	Model and Make	Quantity
Calibrator	GMW25; S/N: 1536	1
HVS Sampler	Graseby GMW Model GS2310 High Volume TSP Sampler and associated equipment and shelter	3

### Monitoring Parameters, Frequency and Duration

- 2.4 **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting period is shown in **Appendix C**.

**Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration**

Parameters	Frequency
1-hr TSP	Three times / 6 days
24-hr TSP	Once / 6 days

### Monitoring Methodology and QA/QC Procedure

#### Instrumentation

- 2.5 Graseby GMW Model GS2310 TSP High Volume Sampler (HVS) was employed for 1-hour & 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in Sections 2.2 – 2.4 of the Updated EM&A Manual (1999).

#### Operating/Analytical Procedures

- 2.6 Operating/analytical procedures for the operation of HVS were as follows:
- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
  - No two samplers were placed less than 2 meters apart.
  - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
  - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
  - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
  - No furnaces or incineration flues were nearby.
  - Airflow around the sampler was unrestricted.
  - The sampler was more than 20 meters from the drip line.
  - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- 2.7 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. For TSP sampling, fiberglass filters (G810) were used.
- 2.8 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 2.9 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

- 2.10 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- 2.11 The shelter lid was closed and secured with the aluminum strip. The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number). After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.
- 2.12 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than  $\pm 3^\circ\text{C}$ ; the relative humidity (RH) should be  $< 50\%$  and not vary by more than  $\pm 5\%$ . A convenient working RH is 40%.

#### Maintenance/Calibration

- 2.13 The following maintenance/calibration was required for the HVS:
- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
  - High volume samplers were calibrated at bi-monthly intervals using GMW-25 Calibration Kit throughout all stages of the air quality monitoring.

#### **Results and Observations**

- 2.14 All TSP monitoring was conducted as scheduled in the reporting month.
- 2.15 No Action/Limit Level exceedance for both 1-hour TSP and 24-hour TSP was recorded in the reporting month.
- 2.16 Wind data monitoring equipment has been installed in Shatin Heights for logging wind speed and wind direction. These wind data is summarized in Appendix D.
- 2.17 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in Appendices E and F, respectively.

### 3. NOISE

#### Monitoring Requirements

- 3.1 Monitoring and audit of construction noise levels is required to be conducted, in accordance with the EM&A Manual, to ensure that any unacceptable noise impacts could be readily detected and timely and appropriate action be undertaken to rectify the situation.
- 3.2 The construction noise levels shall be measured in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).  $L_{eq}$  (30min) shall be used as the monitoring parameter for the time period between 0700-1900 hours on normal weekdays. For all other time periods,  $L_{eq}$  (5min) shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. As supplementary information for data auditing, statistical results such as  $L_{10}$  and  $L_{90}$  shall also be obtained for reference.
- 3.3 Three designated noise monitoring stations, namely NM1, NM5 & NM6 were selected for impact monitoring in accordance to the EM&A manual (1999) and the subsequent EPD approval of the relocations.
- 3.4 Noise monitoring is also required to be conducted at station NM7 in accordance with the EM&A Manual (1998). The noise monitoring at the station is required to be conducted under CEDD's construction Contract No. ST 89/02 "Sha Tin Heights Tunnel and Approaches" in accordance with the requirement of Environmental Permit No. EP104/2001/A. The impact noise monitoring results at station NM7 are also presented in this report.
- 3.5 **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

#### Monitoring Locations

- 3.6 Noise monitoring was conducted at four designated monitoring stations as summarized in Table 3.1. Figures 1a & 1b show the locations of these stations.

**Table 3.1 Noise Monitoring Stations**

Monitoring Station	Description	Location
NM1	Yew Chung International School / PKL Choi Kai Yau School	Rooftop
NM5	Villa Carlton	Ground Floor <sup>1</sup>
NM6	Government Quarters	Rooftop of Refuse Collection Station
NM7	Garden Villa	Rooftop

Note: <sup>1</sup> The noise measurement was taken at 2.3m above the ground floor of Villa Carlton, where has a line of sight of the construction site in the opposite.

## Monitoring Equipment

- 3.7 Table 3.2 summarizes the noise monitoring equipment model being used. Copies of calibration certificates are attached in **Appendix B**.

**Table 3.2 Noise Monitoring Equipment**

Equipment	Model and Make	Qty.
Integrating Sound Level Meter	B&K Model 2238	5
Calibrator	B&K 4231	2
Wind Speed Anemometer	RS232 Integral Vane Digital Anemometer	1

## Monitoring Parameters, Frequency and Duration

- 3.8 Table 3.3 summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix C**.

**Table 3.3 Noise Monitoring Parameters, Frequency and Duration**

Station	Parameter	Period <sup>1</sup>	Frequency	Measurement
NM1	L <sub>10</sub> (30 min.)dB(A) L <sub>90</sub> (30 min.)dB(A) L <sub>eq</sub> (30 min.)dB(A)	(a) 0700-1900 hrs. on weekdays (b) 1900-2300 hrs. on weekdays (c) 0700-2300 hrs. on holidays (d) 2300-0700 hrs on any days	Once per week	Façade
NM5				Façade
NM6				Free Field
NM7				Façade

Note: <sup>1</sup>(b), (c) and (d) will only be conducted if construction works are undertaken during these periods.

## Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was generally set on a tripod at a height of 1.2 m above the ground, depending to the actual monitoring condition.
- For free field measurement (if any), the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.

- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

### **Maintenance and Calibration**

- 3.9 The microphone head of the sound level meter and calibrator was cleaned with soft cloth regularly. The meters were sent to the supplier to check and calibrate on a yearly interval.

### **Results and Observations**

- 3.10 Noise monitoring was performed at the four designated locations as scheduled for the daytime period (0700-1900 hours) in this reporting month. Restricted-hour monitoring was also conducted at NM5, NM6 and NM7.
- 3.11 All the Construction Noise Levels (CNLs), except the monitoring (0700-1900 on weekdays) at NM1 and NM6, reported in this report were adjusted with the corresponding baseline level (i.e. Measured  $L_{eq}$  – Baseline  $L_{eq}$  = Measured CNL), in order to facilitate the interpretation of the noise exceedance.
- 3.12 Noise monitoring results and graphical presentations are shown in **Appendix G**.
- 3.13 No Action/Limit Level exceedance for noise monitoring was recorded in the reporting month.



#### 4. ENVIRONMENTAL AUDIT

##### Site Audits

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are provided in **Appendix I**.
- 4.2 Site audits for Civil and TCSS contract and were conducted on 4<sup>th</sup>, 10<sup>th</sup>, 17<sup>th</sup>, 24<sup>th</sup> and 31<sup>st</sup> January 2007 by ET. No environmental deficiency was recorded for TCSS contract during site inspections. The joint site audit for civil works and TCSS works was conducted on 4<sup>th</sup> and 31<sup>st</sup> January 2007 with representatives from HyD, IEC, ER, the Contractor and ET.

##### Review of Environmental Monitoring Procedures

- 4.3 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

###### *Air Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

###### *Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

##### Status of Environmental Licensing and Permitting

- 4.4 All valid permits/licenses obtained for the Project are summarized in **Table 4.1**. No new CNP was issued to the Project by EPD in the reporting month.

##### Implementation Status of Environmental Mitigation Measures

- 4.5 According to the Environmental Permit and the EM&A Manuals, the mitigation measures detailed in the documents are required to be implemented. An updated summary of the EMIS is provided in **Appendix K**.

**Table 4.1 Summary of Environmental Licensing and Permit Status**

Permit No.	Valid Period		Details	Status
	From	To		
<b>Environmental Permit (EP)</b>				
EP-103/2001/C	22/07/05	N/A	<p><u>Construction and operation of</u></p> <p>(a) All civil works (including highways, traffic, geotechnical, drainage, structural, architectural and landscaping works) for the Lai Chi Kok Viaduct, the interchange with Ching Cheung Road, the main road within Butterfly Valley and the Eagle's Nest Tunnel;</p> <p>(b) All E&amp;M works (including ventilation, Traffic Control &amp; Surveillance System (TCSS), toll collection system and lighting) for the whole Route 9 between Cheung Sha Wan and Sha Tin;</p> <p>(c) The permanent slope works above the northern portal of the Eagle's Nest Tunnel;</p> <p>(d) The architectural works (including fitting out and furnishings) of the portal buildings of the Sha Tin Heights Tunnel.</p>	Valid
<b>Registration of Chemical Waste Producer</b>				
WPN 5213-761-L2595-01	26/01/04	N/A	Regulation for disposal of spent oil and waste batteries arising from construction activities in all project areas.	Valid
<b>Water Discharge Licence</b>				
EP482/261/0327/I	03/05/04	31/05/09	Discharge of industrial trade effluent and effluent arising from construction activities at the construction site at Ventilation Adit on Tai Po Road (behind Shell Filling Station) opposite Pinehill Development Highways.	Valid
EP482/261/0326/I	01/04/04	30/04/09	Discharge of industrial trade effluent and effluent arising from construction activities at the construction site at Mui Kong Tsuen, Butterfly Valley, Lai Chi Kok, Kowloon.	Valid
No. 3156	23/02/04	22/02/09	Discharge of industrial trade effluent and all other wastewater arising from the works areas at North Portal of Route 9 – Eagle's Nest Tunnel and Associated Works (Contract HY/2003/02).	Valid
<b>Construction Noise Permit (CNP)</b>				
GW-RW0392-06	6/8/06	5/2/07	<p><i>Location:</i> Tai Po Road Shell Petrol Filling Station and opposite to Villa Carlton</p> <p><i>Time Period:</i> General holidays including Sundays between 0700-2300 and any day not being a general holiday between 1900-2300.</p>	Valid
GW-RW0422-06	4/8/06	3/2/07	<p><i>Location:</i> Butterfly Valley</p> <p><i>Time Period:</i> General holidays including Sundays between 0700-2300 and any day not being a general holiday between 1900-2300.</p>	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RN0473-06	25/9/06	24/3/07	<i>Location:</i> Tunnel North Portal near Tai Po Road and Keng Hau Road <i>Time period:</i> General holiday including Sundays between 0700 and 2300 and any day not being a general holiday including Sundays between 1900 and 2300.	Valid
GW-RN0486-06	25/9/06	24/3/07	<i>Location:</i> ENT-North Portal <i>Time period:</i> Any day between 2300 and 0700 on next day.	Valid
GW-RN0487-06	10/10/06	9/4/07	<i>Location:</i> ENT-North Portal <i>Time Period:</i> General holidays including Sundays between 0700-2300 and any day not being a general holiday between 1900-2300.	Valid
GW-RN0488-06	10/10/06	9/4/07	<i>Location:</i> ENT-South Portal <i>Time Period:</i> Any day between 2300 and 0700 on next day.	Valid
GW-RN0489-06	10/10/06	9/4/07	<i>Location:</i> ENT-South Portal <i>Time Period:</i> General holidays including Sundays between 0700-2300 and any day not being a general holiday between 1900-2300.	Valid
GW-RN0492-06	11/11/06	10/5/07	<i>Location:</i> Administration Building <i>Time Period:</i> General holidays including Sundays between 0700-2300 and any day not being a general holiday between 1900-2300.	Valid
GW-RW0536-06	20/9/06	19/3/07	<i>Location:</i> Butterfly Valley <i>Time Period:</i> General holidays including Sundays between 0700-2300 and any day not being a general holiday between 1900-2300.	Valid
GW-RN0564-06	7/12/06	6/6/07	<i>Location:</i> SHT – South Portal Tunnel near Garden Villa <i>Time Period:</i> Any day between 2300-0700 on next day.	Valid
GW-RN0575-06	7/12/06	6/6/07	<i>Location:</i> SHT – South Portal Tunnel near Tai Po Road and Keng Hau Road <i>Time Period:</i> Any day between 2300-0700 on next day.	Valid
GW-RN0600-06	18/12/06	17/6/07	<i>Location:</i> SHT - South Portal near Garden Villa <i>Time Period:</i> General holidays including Sundays between 0000-0700 and any day not being a general holiday between 1900-2400.	Valid

4.6 No non-conformance was identified during the site inspections in the reporting month. The observations and recommendations are summarized in **Table 4.2**.

4.7 Spot checks on truck overloading were also conducted during the site inspections since June 2006. No overloading incident was observed during the site inspections in the reporting month.

### **Summary of Exceedances**

#### *1-hr and 24-hr TSP Monitoring*

- 4.8 No Action/Limit Level exceedance for both 1-hour TSP and 24-hour TSP was recorded in the reporting month.

#### *Construction noise*

- 4.9 No Action/Limit Level exceedance for noise monitoring was recorded in the reporting month.

**Table 4.2 Observations and Recommendations of Site Audit for civil works**

<b>Parameters</b>	<b>Date</b>	<b>Observations / Recommendations</b>	<b>Remedial Actions</b>
<i><b>Water Quality</b></i>	4-Jan-07	<i>Reminder</i> - Standing water was observed on the ground floor of ENT North Portal Building. It should be cleaned up to avoid mosquito breeding.	Rectification / improvement was observed during the site inspection on 10 January 07.
	17-Jan-07	<i>Reminder</i> - Step Channel at Mui Kong Tsuen needed desiltation for the silt deposited at the base of Channel. The Contractor was reminded to remove silt after rainstorm.	Rectification / improvement was observed during the site inspection on 24 January 07.
<i><b>Waste/Chemical Management</b></i>	4-Jan -07	<i>Observation</i> - Some general refuse was accumulated inside the U-channel at portion D4. The contractor was reminded to clean it up.	Rectification / improvement was observed during the site inspection on 10 January 07.
	4-Jan-07	<i>Reminder</i> - Some general refuse was scattered on bare ground at culvert A. It should be cleaned up and disposal of on suitable area.	Rectification / improvement was observed during the site inspection on 10 January 07.

**Implementation Status of Event Action Plans**

4.10 The Event Action Plans for air quality and noise are presented in **Appendix J**.

**Summary of Complaints and Prosecutions**

4.11 No environmental related complaint or prosecution was received in the reporting month.

4.12 There were 22 environmental complaints and no prosecution received since the commencement of the Project. The updated Complaint Log is shown in **Appendix M**.

## 5. FUTURE KEY ISSUES

### Key Issues for the Coming Month

5.1 Key issues to be considered in the coming months include:

- Potential dust emission from shotcreting, drainage and road works.

### Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedule for next month is shown in **Appendix C**.

### Construction Program for the Next Month

5.3 The tentative construction program for civil works is provided in **Appendix L**. The major construction activities for civil works in the coming months include:

#### *ENT Tunnel*

- VE panel, road work for NB tunnel, door installation, E&M cabling dampers, dampers, tunnel ventilation system, fire services and testing of circuitry for tunnel lighting

#### *Butterfly Valley*

- Haul road, rock dowel, road and drainage works, DN200 & DN200 twin water-main, utility, shotcreting, hydro-mulching, high mast erection, irrigation pipe & system, culvert A & gabion wall, erection of sign gantries.

#### *South Portal Building*

- Louvre/ Cladding, Door & Hand Rail installation, screeding, painting (final) plumbing & drainage, vent shaft erection, plumbing & drainage, fire services, mechanical ventilation air condition, Tunnel Ventilation System and T&C for HV, LV cable & switchboard.

#### *North Portal Building*

- Louvre/ Cladding, Door & Hand Rail installation, rendering, fire services, mechanical ventilation air condition, Tunnel Ventilation System, T&C for HV, LV cable & switchboard.

#### *Toll Plaza's Structures and Administration Building*

- Footbridge and Toll Collector construction, utility (draw pit/ ducting), drainage & road works, construction of car park shelter no.1, curtain wall & glazing installation, rendering, fire services, mechanical ventilation air condition, plumbing & drainage, cabling, lift installation, T&C for HV, LV cable & switchboard and fire services.

*Ventilation Building & Tai Po Road*

- Louvre /cladding, door & handrail installation, vent shaft construction, rendering, earth works, plumbing & drainage, fire service, mechanical ventilation air condition, T&C for HV, LV cable & switchboard and Tunnel Ventilation System.

*SHT – South Portal Building*

- Louvre installation, screeding, rendering, tunnel ventilation system, plumbing & drainage, fire services, mechanical ventilation air conditioning, T&C for HV, LV cable & switchboard.

*SHT – North Portal Building*

- Louvre installation, screeding, rendering, tunnel ventilation system, plumbing & drainage, fire services, mechanical ventilation air conditioning, T&C for HV, LV cable & switchboard.

*SHT Tunnel & Remaining SHT/T3 Area*

- Lighting installation, fire services, tunnel ventilation system & cabling & sand filing on SHT OHVD

*LCKV Viaduct Area*

- E&M installation in pump house and lighting installation in noise enclosure.

5.4 The tentative construction program for TCSS works is provided in **Appendix L**. The major site activities for TCSS works in the coming months include:

- Cable laying, field equipment installation and control cabinet installation at Tunnel
- Cable laying, field equipment installation, control cabinet installation and highmast installation at Butterfly Valley
- Cable laying at Kiosk K3, K4
- Cable laying, control equipment installation and antenna pole installation at South Portal Building
- Cable laying, control equipment installation and antenna pole installation at North Portal Building
- Cable laying and field equipment installation at Toll Plaza
- Cable laying, control equipment installation and antenna pole installation at Administration Building
- Cable laying, control equipment installation and antenna pole installation at Ventilation Building

## 6. CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 6.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.
- 6.2 No Action/Limit Level exceedance for 1-hour TSP and 24-hours TSP was recorded in the reporting month.
- 6.3 No Action/Limit Level exceedance for noise monitoring was recorded in the reporting month.
- 6.4 No environmental complaint or prosecution was received in the reporting month.

### Recommendations

- 6.5 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### *Water Impact*

- To review and implement temporary drainage system especially for the areas at Butterfly Valley and Toll Plaza.
- To closely monitor the capacity of existing de-silting facility on site, especially for the discharge at the site in Butterfly Valley and Toll Plaza.
- To keep the sedimentation facilities well maintained and perform de-silting regularly.
- To avoid accumulation of stagnant water on site.

#### *Dust Impact*

- To ensure that adequate water spray or other dust suppression measures are applied for slope cutting and the haul roads and stockpile on site.
- To cover idle soil slope surface and stockpile of dusty materials to prevent wind erosion.
- To ensure that all vehicles carrying dusty materials are properly covered before leaving the site.

#### *Noise Impact*

- To provide temporary noise barriers for noisy activities (such as breaking works).
- To reduce the number of noisy equipment in concurrent operation.



*Waste/Chemical Management*

- To ensure proper storage of chemical and chemical waste on site.
- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly.

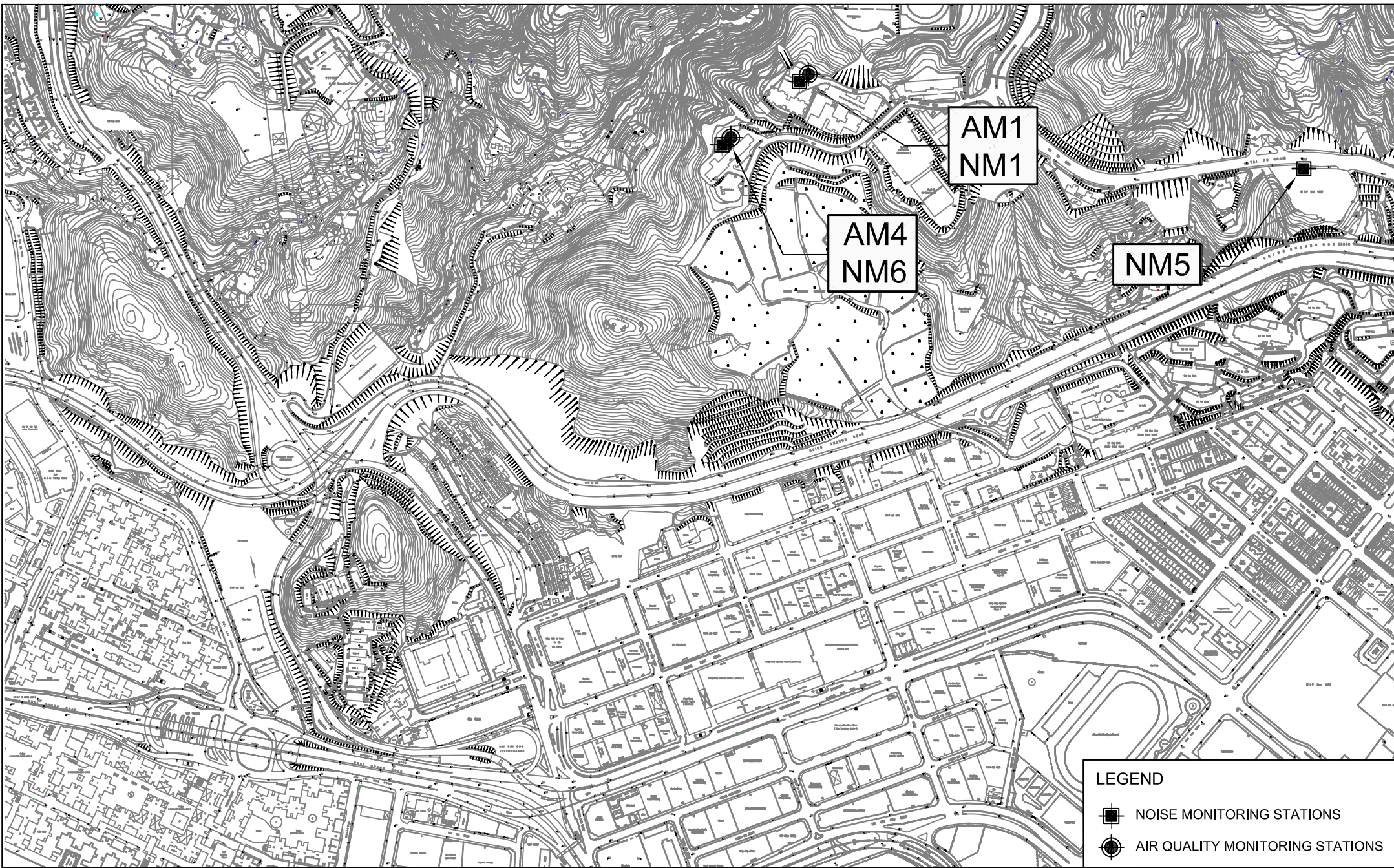
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## FIGURES

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LEGEND	
	NOISE MONITORING STATIONS
	AIR QUALITY MONITORING STATIONS

Title

ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN  
 CONTRACT NO. HY/2003/02 - EAGLE'S NEST TUNNEL AND ASSOCIATED WORKS

LOCATIONS OF MONITORING STATIONS

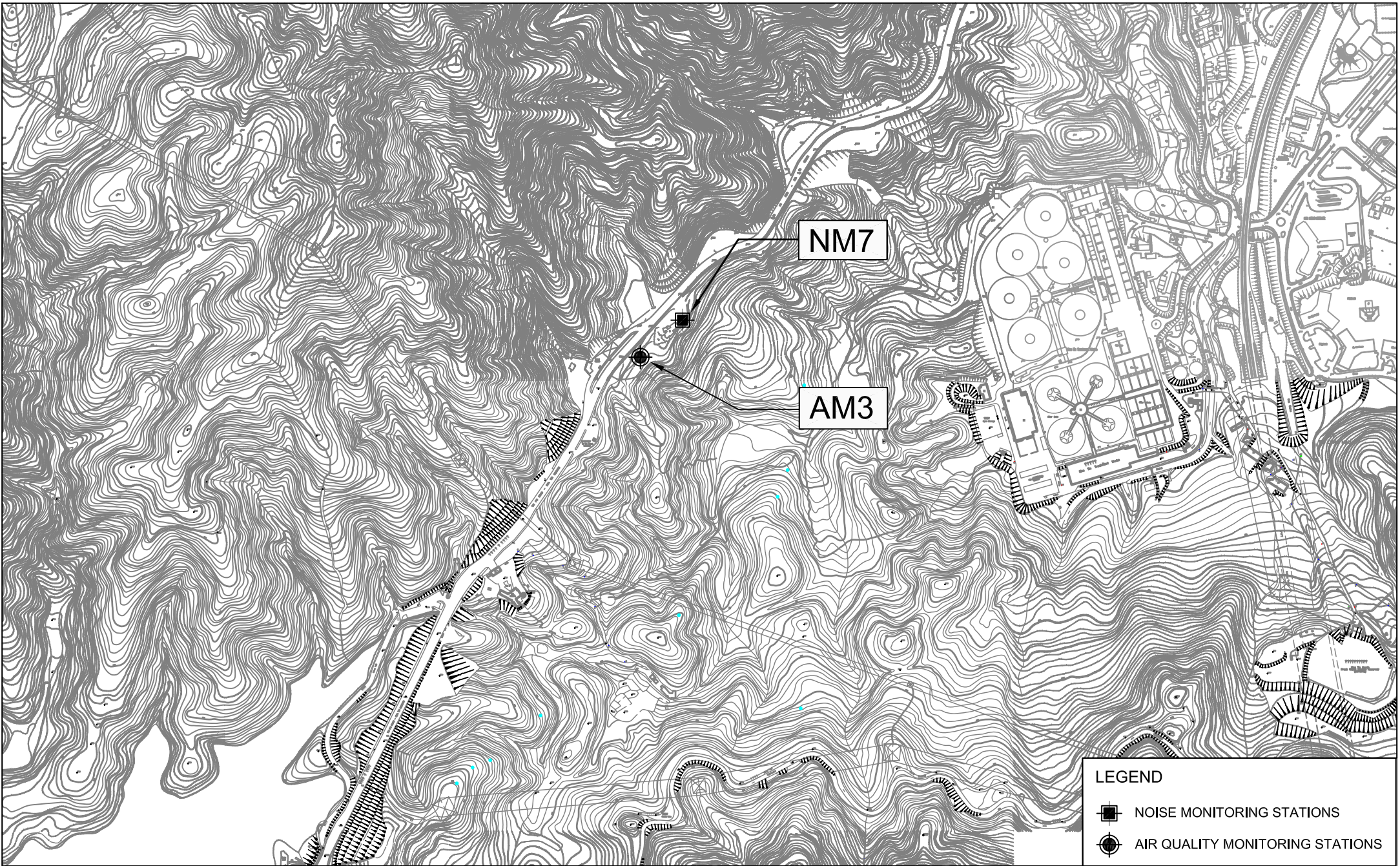
Scale  
1 : 6500 (A4)

Date  
2006

Project No.  
MA3024

Figure No.  
1a





LEGEND	
	NOISE MONITORING STATIONS
	AIR QUALITY MONITORING STATIONS

Title

ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN  
 CONTRACT NO. HY/2003/02 - EAGLE'S NEST TUNNEL AND ASSOCIATED WORKS

**LOCATIONS OF MONITORING STATIONS**

Scale  
 1 : 6500 (A4)

Date  
 2006

Project No.  
 MA3024

Figure No.  
 1b



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**APPENDIX A  
ACTION AND LIMIT LEVELS**

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## Appendix A - Action and Limit Levels (ENT)

### 1-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	296	500
AM3	350	
AM4	294	

### 24-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	168	260
AM3	200	
AM4	170	

### Construction Noise

Period	Action Level	Limit Level, dB(A)			
	for all stations	NM1	NM5	NM6	NM7
0700-1900 hrs on normal weekdays	When one documented complaint is received	70/65*	75	75	75
0700-2300 hrs on holidays & 1900-2300 hrs on all other days		-	70	65	60
2300-0700 hrs of next day		-	55	50	45

- (\*) Since NM1 is an educational institution, the noise Limit Level (0700-1900 hrs on normal days) is taken as 70 dB(A). The Limit Level will be reduced to 65 dB(A) during school examination periods.

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**APPENDIX B  
COPIES OF CALIBRATION  
CERTIFICATES**

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# High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

# CINOTECH

File No. MA3024/18/0021

Station: Po Leung Kuk Choi Kai Yau School  
Date: 17-Jan-07  
Equipment No.: A-01-18Operator: WK  
Next Due Date: 16-Mar-07  
Serial No.: 0723

Ambient Condition			
Temperature, Ta (K)	289.3	Pressure, Pa (mmHg)	767.4

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0575	Intercept, bc	0.0395
Last Calibration Date:	13-Mar-06	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	12-Mar-07	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.6	3.62	62.27	8.6	2.99
2	11.5	3.46	59.46	7.7	2.83
3	7.6	2.81	48.21	5.2	2.33
4	5.4	2.37	40.53	3.2	1.82
5	3.1	1.80	30.54	1.9	1.41

**By Linear Regression of Y on X**Slope, mw = 0.0505Intercept, bw = -0.1594Correlation coefficient\* = 0.9980

\*If Correlation Coefficient &lt; 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.89

Remarks: \_\_\_\_\_

Conducted by: [Signature] Signature: \_\_\_\_\_Date: 17/1/07Checked by: [Signature] Signature: \_\_\_\_\_Date: 17 January 07



**High-Volume TSP Sampler  
5-POINT CALIBRATION DATA SHEET**

CINOTECH

File No. MA3024/17/0022

Station Government Quarter  
Date: 18-Nov-06  
Equipment No.: A-01-17

Operator: WK  
Next Due Date: 17-Jan-07  
Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	299	Pressure, Pa (mmHg)	765

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0575	Intercept, bc	0.0395
Last Calibration Date:	13-Mar-06	<b><math>mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}</math></b>			
Next Calibration Date:	12-Mar-07	<b><math>Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc</math></b>			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) <b>X - axis</b>	$\Delta W$ (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ <b>Y- axis</b>
1	13.0	3.61	62.12	7.9	2.82
2	10.9	3.31	56.82	6.7	2.59
3	8.3	2.89	49.50	5.4	2.33
4	5.5	2.35	40.16	3.3	1.82
5	3.2	1.79	30.47	1.9	1.38

**By Linear Regression of Y on X**

Slope , mw = 0.0458                      Intercept, bw : -0.0029  
Correlation coefficient\* = 0.9981

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.85

Remarks: \_\_\_\_\_

Conducted by: Wk Tang      Signature: [Signature]  
Checked by: [Signature]      Signature: [Signature]

Date: 18/11/06  
Date: 18 Nov 2006

**High-Volume TSP Sampler  
5-POINT CALIBRATION DATA SHEET**

**CINOTECH**

File No. MA3024/17/0023

Station Government Quarter  
Date: 17-Jan-07  
Equipment No.: A-01-17

Operator: WK  
Next Due Date: 16-Mar-07  
Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	289.3	Pressure, Pa (mmHg)	767.4

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0575	Intercept, bc	0.0395
Last Calibration Date:	13-Mar-06	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	12-Mar-07	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.0	3.53	60.75	8.7	3.01
2	10.7	3.34	57.33	7.3	2.76
3	8.0	2.88	49.48	5.6	2.41
4	5.6	2.41	41.29	3.2	1.82
5	3.0	1.77	30.03	1.7	1.33

**By Linear Regression of Y on X**

Slope,  $m_w =$  0.0549      Intercept,  $b_w =$  -0.3586  
Correlation coefficient\* = 0.9964

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM  
From the Regression Equation, the "Y" value according to

$$m_w \times Qstd + b_w = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point;  $W = (m_w \times Qstd + b_w)^2 \times (760 / Pa) \times (Ta / 298) =$  3.86

Remarks: \_\_\_\_\_

Conducted by: W.K. Jang Signature: [Signature]  
Checked by: [Signature] Signature: [Signature]

Date: 17/1/07  
Date: 17 January 07

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/06/60502
Date of Issue:	2006-05-02
Date Received:	2006-05-01
Date Tested:	2006-05-01
Date Completed:	2006-05-02

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description : RS232 Integral Vane Digital Anemometer  
Manufacturer : AZ Instrument  
Model No. : 451104  
Serial No. : 9020746  
Equipment No. : A-03-01

**Test conditions:**

Room Temperature : 21 degree Celsius  
Relative Humidity : 66%  
Pressure : 1018.4 kPa

**Methodology:**

The anemometer has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	21.0	21.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Laboratory Manager



TISCH ENVIROMENTAL, INC.  
 145 SOUTH MIAMI AVE.  
 VILLAGE OF CLEVELS, OH 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX  
 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 13, 2006 Rootsmeter S/N 9833620 Ta (K) - 294  
 Operator Tisch Orifice I.D. - 0993 Pa (mm) - 746.76

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3890	3.2	2.00
2	NA	NA	1.00	0.9850	6.3	4.00
3	NA	NA	1.00	0.8810	7.8	5.00
4	NA	NA	1.00	0.8410	8.6	5.50
5	NA	NA	1.00	0.6950	12.5	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9917	0.7139	1.4113	0.9957	0.7168	0.8874
0.9876	1.0026	1.9959	0.9916	1.0067	1.2549
0.9854	1.1185	2.2315	0.9894	1.1231	1.4030
0.9844	1.1706	2.3405	0.9884	1.1753	1.4715
0.9792	1.4090	2.8227	0.9832	1.4147	1.7747
Qstd slope (m) = 2.03154			Qa slope (m) = 1.27212		
intercept (b) = -0.03970			intercept (b) = -0.02496		
coefficient (r) = 0.99999			coefficient (r) = 0.99999		
y axis = SQRT[H2O(Pa/760)(298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

$$Vstd = \text{Diff. Vol} [ (Pa - \text{Diff. Hg}) / 760 ] (298/Ta)$$

$$Qstd = Vstd/Time$$

$$Va = \text{Diff Vol} [ (Pa - \text{Diff Hg}) / Pa ]$$

$$Qa = Va/Time$$

For subsequent flow rate calculations:

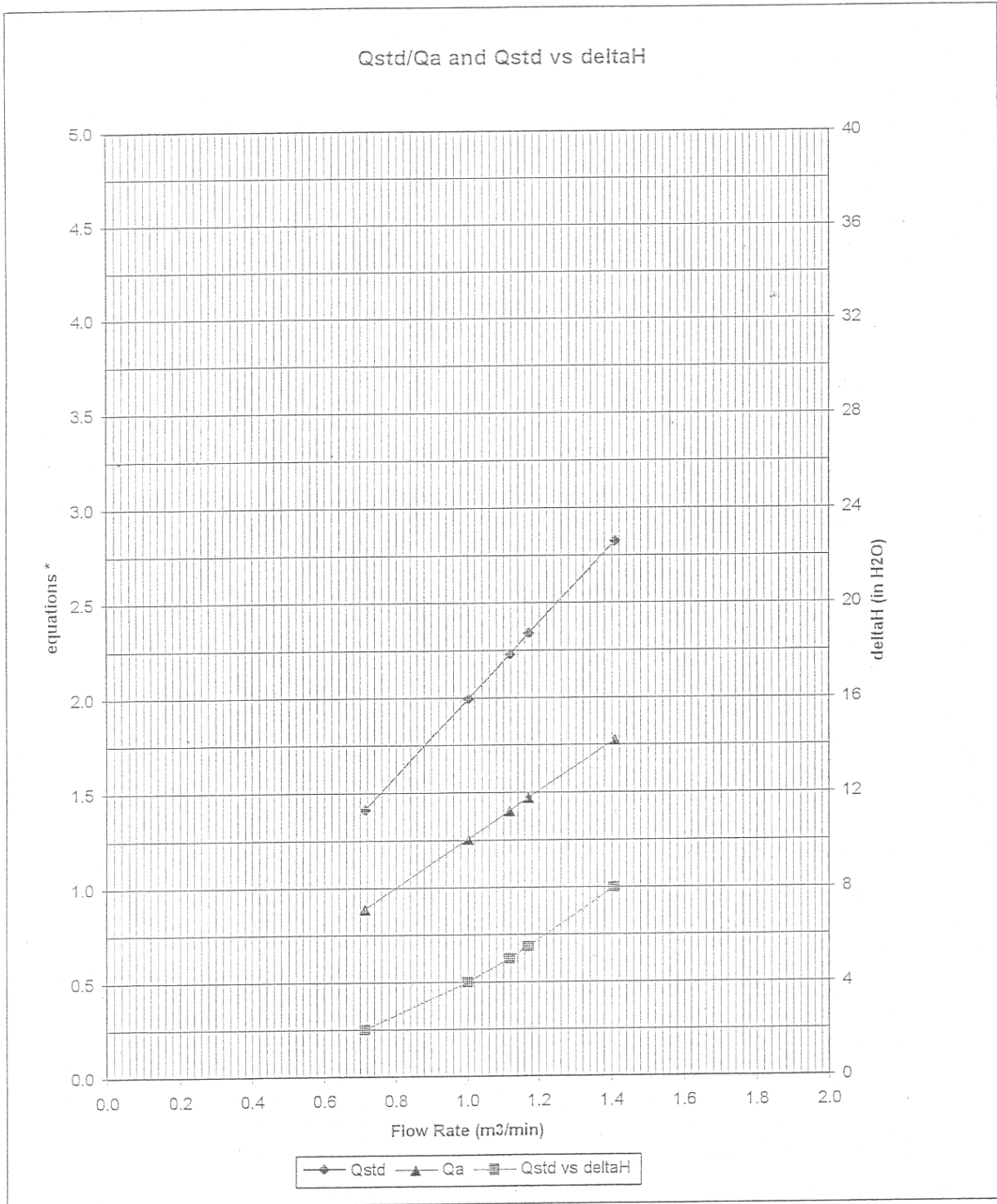
$$Qstd = 1/m \{ [SQRT(H2O(Pa/760)(298/Ta))] - b \}$$

$$Qa = 1/m \{ [SQRT H2O(Ta/Pa)] - b \}$$



TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE.  
 VILLAGE OF CLEVELAND, OH 45002  
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 877.263.7610 TOLL FREE  
 513.467.9009 FAX  
 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT



\* y-axis equations:

Qstd series: 
$$\sqrt{\Delta H \left( \frac{P_a}{P_{std}} \right) \left( \frac{T_{std}}{T_a} \right)}$$

Qa series: 
$$\sqrt{(\Delta H (T_a / P_a))}$$

#0993

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/61215/1
Date of Issue:	2006-12-15
Date Received:	2006-12-14
Date Tested:	2006-12-15
Date Completed:	2006-12-15
Next Due Date:	2007-12-14

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2337665
Microphone No.	: 2289749
Equipment No.	: N-01-01

**Test conditions:**

Room Temperature	: 20 degree Celsius
Relative Humidity	: 60%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Operation Manager



# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/61116/1
Date of Issue:	2006-11-16
Date Received:	2006-11-15
Date Tested:	2006-11-15
Date Completed:	2006-11-16
Next Due Date:	2007-11-15

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

#### Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2337666
Microphone No.	: 2289750
Equipment No.	: N-01-02

#### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 59%

#### Test Specifications:

Performance checking at 94 and 114 dB

#### Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Operation Manager

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1601-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/60904-1
Date of Issue:	2006-09-04
Date Received:	2006-09-02
Date Tested:	2006-09-02
Date Completed:	2006-09-04
Next Due Date:	2007-09-03

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

#### Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2359311
Microphone No.	: 2346382
Equipment No.	: N-01-03

#### Test conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 64%

#### Test Specifications:

Performance checking at 94 and 114 dB

#### Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

*Patrick*

**PATRICK TSE**  
*Laborary Manager*

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13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
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## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/60904-2
Date of Issue:	2006-09-04
Date Received:	2006-09-02
Date Tested:	2006-09-02
Date Completed:	2006-09-04
Next Due Date:	2007-09-03

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

#### Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2359303
Equipment No.	: N-01-04

#### Test conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 63%
Pressure	: 1006.5hPa

#### Test Specifications:

Performance checking at 94 and 114 dB

#### Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Operation Manager

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13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/61014/1
Date of Issue:	2006-10-14
Date Received:	2006-10-13
Date Tested:	2006-10-14
Date Completed:	2006-10-14
Next Due Date:	2007-10-13

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Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2394976
Microphone No.	: 2407349
Equipment No.	: N-01-05

**Test conditions:**

Room Temperature	: 21 degree Celsius
Relative Humidity	: 60%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

*Operation Manager*

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Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/61116/2
Date of Issue:	2006-11-16
Date Received:	2006-11-15
Date Tested:	2006-11-15
Date Completed:	2006-11-16
Next Due Date:	2007-11-15

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2326353
Project No.	: C13
Equipment No.	: N-02-01

### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 59%
Pressure	: 1015.2 hPa

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

*Patrick .*

**PATRICK TSE**

*Operation Manager*

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/06/60304
Date of Issue:	2006-03-04
Date Received:	2006-03-03
Date Tested:	2006-03-03
Date Completed:	2006-03-04
Next Due Date:	2007-03-04

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2343007
Project No.	: C13
Equipment No.	: N-02-02

### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 71%
Pressure	: 1020.1hPa

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.2 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Operation Manager

# WELLAB LTD.

606 - 608 Cornell Centre,  
50 Wing Tai Road,  
Chai Wan, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1601-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/60904-3
Date of Issue:	2006-09-04
Date Received:	2006-09-02
Date Tested:	2006-09-02
Date Completed:	2006-09-04
Next Due Date:	2007-09-03

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2412367
Equipment No.	: N-02-03

### Test conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 63%
Pressure	: 1020.1hPa

### Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Operation Manager

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**APPENDIX C  
ENVIRONMENTAL MONITORING AND  
AUDIT SCHEDULE**

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**Environmental Monitoring for Eagle's Nest Tunnel  
Air Quality and Noise Monitoring Schedule for January 2007**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>31-Dec</b>	<b>1-Jan</b>	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan
		1 hr TSP Noise 24 hr TSP	1 hr TSP		1 hr TSP	
<b>7-Jan</b>	8-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan
	24 hr TSP	1 hr TSP Noise		1 hr TSP	1 hr TSP	24 hr TSP
<b>14-Jan</b>	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan
	1 hr TSP Noise	1 hr TSP		1 hr TSP	24 hr TSP	
<b>21-Jan</b>	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan
	1 hr TSP Noise	1 hr TSP		24 hr TSP	1 hr TSP	
<b>28-Jan</b>	29-Jan	30-Jan	31-Jan	1-Feb	2-Feb	3-Feb
	1 hr TSP Noise	1 hr TSP	24 hr TSP	1 hr TSP		

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

AM1 Yew Chung International School /Po Leung Kuk Choi Kai Yau School  
AM3 Garden Villa  
AM4 Government Quarters

NM1 Yew Chung International School /Po Leung Kuk Choi Kai Yau School  
NM5 Villa Carlton  
NM6 Government Quarters  
NM7 Garden Villa

**Environmental Monitoring for Eagle's Nest Tunnel  
Tentative Air Quality and Noise Monitoring Schedule for February 2007**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>28-Jan</b>	29-Jan	30-Jan	31-Jan	1-Feb	2-Feb	3-Feb
	1 hr TSP Noise	1 hr TSP	24 hr TSP	1 hr TSP		
<b>4-Feb</b>	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb
		1 hr TSP 24 hr TSP	1 hr TSP	1 hr TSP Noise		
<b>11-Feb</b>	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	<b>17-Feb</b>
	1 hr TSP Noise 24 hr TSP	1 hr TSP		1 hr TSP	24 hr TSP	
<b>18-Feb</b>	<b>19-Feb</b>	<b>20-Feb</b>	21-Feb	22-Feb	23-Feb	24-Feb
			1 hr TSP	1 hr TSP Noise 24 hr TSP	1 hr TSP	
<b>25-Feb</b>	26-Feb	27-Feb	28-Feb	1-Mar	2-Mar	3-Mar
		1 hr TSP	24 hr TSP	1 hr TSP	1 hr TSP Noise	

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

AM1 Yew Chung International School /Po Leung Kuk Choi Kai Yau School  
AM3 Garden Villa  
AM4 Government Quarters

NM1 Yew Chung International School /Po Leung Kuk Choi Kai Yau School  
NM5 Villa Carlton  
NM6 Government Quarters  
NM7 Garden Villa

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**APPENDIX D**  
**WIND DATA**

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## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Jan-2007	00:00	0.4	WSW
1-Jan-2007	01:00	1.3	WSW
1-Jan-2007	02:00	1.8	WNW
1-Jan-2007	03:00	2.2	WNW
1-Jan-2007	04:00	2.2	WNW
1-Jan-2007	05:00	1.8	WNW
1-Jan-2007	06:00	1.3	WNW
1-Jan-2007	07:00	1.3	WNW
1-Jan-2007	08:00	1.3	WNW
1-Jan-2007	09:00	0.4	SSW
1-Jan-2007	10:00	1.8	WNW
1-Jan-2007	11:00	2.2	WNW
1-Jan-2007	12:00	1.8	WNW
1-Jan-2007	13:00	1.8	WNW
1-Jan-2007	14:00	0.4	WNW
1-Jan-2007	15:00	0.4	WSW
1-Jan-2007	16:00	0.9	W
1-Jan-2007	17:00	0.0	WNW
1-Jan-2007	18:00	0.4	W
1-Jan-2007	19:00	0.9	W
1-Jan-2007	20:00	1.3	W
1-Jan-2007	21:00	0.9	W
1-Jan-2007	22:00	0.9	W
1-Jan-2007	23:00	0.9	W
2-Jan-2007	00:00	1.8	W
2-Jan-2007	01:00	1.3	W
2-Jan-2007	02:00	1.8	WNW
2-Jan-2007	03:00	2.7	WNW
2-Jan-2007	04:00	2.7	WNW
2-Jan-2007	05:00	2.2	WNW
2-Jan-2007	06:00	2.2	WNW
2-Jan-2007	07:00	3.6	WNW
2-Jan-2007	08:00	3.6	WNW
2-Jan-2007	09:00	2.2	WNW
2-Jan-2007	10:00	3.1	WNW
2-Jan-2007	11:00	3.1	WNW
2-Jan-2007	12:00	3.6	WNW
2-Jan-2007	13:00	4.0	WSW
2-Jan-2007	14:00	4.5	W
2-Jan-2007	15:00	2.7	WNW
2-Jan-2007	16:00	3.1	WNW
2-Jan-2007	17:00	2.7	W
2-Jan-2007	18:00	2.2	WSW
2-Jan-2007	19:00	1.3	W
2-Jan-2007	20:00	0.9	WNW
2-Jan-2007	21:00	0.4	WNW
2-Jan-2007	22:00	2.2	WNW
2-Jan-2007	23:00	3.6	WNW
3-Jan-2007	00:00	4.0	WNW
3-Jan-2007	01:00	3.1	WNW
3-Jan-2007	02:00	2.7	WNW
3-Jan-2007	03:00	2.2	WNW
3-Jan-2007	04:00	4.0	WNW
3-Jan-2007	05:00	4.5	W

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Jan-2007	06:00	3.6	WNW
3-Jan-2007	07:00	4.0	WNW
3-Jan-2007	08:00	3.6	WNW
3-Jan-2007	09:00	2.7	W
3-Jan-2007	10:00	0.4	WNW
3-Jan-2007	11:00	1.3	WNW
3-Jan-2007	12:00	2.7	WNW
3-Jan-2007	13:00	1.3	WNW
3-Jan-2007	14:00	1.8	W
3-Jan-2007	15:00	0.9	SW
3-Jan-2007	16:00	0.4	SW
3-Jan-2007	17:00	1.3	W
3-Jan-2007	18:00	1.3	WSW
3-Jan-2007	19:00	0.4	SW
3-Jan-2007	20:00	0.9	W
3-Jan-2007	21:00	0.0	---
3-Jan-2007	22:00	0.0	---
3-Jan-2007	23:00	0.9	W
4-Jan-2007	00:00	0.9	WNW
4-Jan-2007	01:00	1.8	WNW
4-Jan-2007	02:00	0.4	WNW
4-Jan-2007	03:00	1.3	WNW
4-Jan-2007	04:00	0.4	W
4-Jan-2007	05:00	1.8	W
4-Jan-2007	06:00	1.8	WNW
4-Jan-2007	07:00	2.7	W
4-Jan-2007	08:00	2.7	WNW
4-Jan-2007	09:00	2.2	W
4-Jan-2007	10:00	2.2	WNW
4-Jan-2007	11:00	2.2	WNW
4-Jan-2007	12:00	1.8	WNW
4-Jan-2007	13:00	1.3	W
4-Jan-2007	14:00	0.4	W
4-Jan-2007	15:00	1.3	SW
4-Jan-2007	16:00	1.3	SW
4-Jan-2007	17:00	0.9	SW
4-Jan-2007	18:00	0.9	WNW
4-Jan-2007	19:00	2.2	WNW
4-Jan-2007	20:00	0.0	---
4-Jan-2007	21:00	0.0	WSW
4-Jan-2007	22:00	0.9	W
4-Jan-2007	23:00	1.8	WNW
5-Jan-2007	00:00	1.3	W
5-Jan-2007	01:00	1.3	WSW
5-Jan-2007	02:00	2.7	WNW
5-Jan-2007	03:00	2.2	W
5-Jan-2007	04:00	2.2	WSW
5-Jan-2007	05:00	2.2	WNW
5-Jan-2007	06:00	2.2	WNW
5-Jan-2007	07:00	0.4	WNW
5-Jan-2007	08:00	0.9	WNW
5-Jan-2007	09:00	0.9	NW
5-Jan-2007	10:00	0.4	WNW
5-Jan-2007	11:00	0.4	W

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Jan-2007	12:00	0.0	W
5-Jan-2007	13:00	0.9	WNW
5-Jan-2007	14:00	2.2	WNW
5-Jan-2007	15:00	2.2	WNW
5-Jan-2007	16:00	1.8	WNW
5-Jan-2007	17:00	2.2	WNW
5-Jan-2007	18:00	2.7	WNW
5-Jan-2007	19:00	1.3	W
5-Jan-2007	20:00	1.3	SW
5-Jan-2007	21:00	0.9	SSW
5-Jan-2007	22:00	0.0	S
5-Jan-2007	23:00	0.4	SW
6-Jan-2007	00:00	0.4	SW
6-Jan-2007	01:00	0.4	SW
6-Jan-2007	02:00	0.0	SW
6-Jan-2007	03:00	0.9	SW
6-Jan-2007	04:00	1.8	WNW
6-Jan-2007	05:00	0.9	WNW
6-Jan-2007	06:00	1.3	WNW
6-Jan-2007	07:00	1.8	SW
6-Jan-2007	08:00	0.9	SW
6-Jan-2007	09:00	1.8	WNW
6-Jan-2007	10:00	2.7	WNW
6-Jan-2007	11:00	1.8	WNW
6-Jan-2007	12:00	1.8	WNW
6-Jan-2007	13:00	1.8	WNW
6-Jan-2007	14:00	1.8	WNW
6-Jan-2007	15:00	4.0	WNW
6-Jan-2007	16:00	3.6	WNW
6-Jan-2007	17:00	3.6	WNW
6-Jan-2007	18:00	1.8	WNW
6-Jan-2007	19:00	1.8	W
6-Jan-2007	20:00	1.3	WNW
6-Jan-2007	21:00	0.9	SW
6-Jan-2007	22:00	0.4	WSW
6-Jan-2007	23:00	0.9	WSW
7-Jan-2007	00:00	2.2	WNW
7-Jan-2007	01:00	1.8	WNW
7-Jan-2007	02:00	2.2	WNW
7-Jan-2007	03:00	3.1	WNW
7-Jan-2007	04:00	3.6	WNW
7-Jan-2007	05:00	3.1	WNW
7-Jan-2007	06:00	3.1	WNW
7-Jan-2007	07:00	2.2	WNW
7-Jan-2007	08:00	2.2	WNW
7-Jan-2007	09:00	2.7	WNW
7-Jan-2007	10:00	1.8	WNW
7-Jan-2007	11:00	2.2	WNW
7-Jan-2007	12:00	2.2	WNW
7-Jan-2007	13:00	1.8	WNW
7-Jan-2007	14:00	0.9	WNW
7-Jan-2007	15:00	1.8	WNW
7-Jan-2007	16:00	0.9	WNW
7-Jan-2007	17:00	0.9	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
7-Jan-2007	18:00	0.4	W
7-Jan-2007	19:00	0.0	W
7-Jan-2007	20:00	0.0	---
7-Jan-2007	21:00	0.0	---
7-Jan-2007	22:00	0.0	---
7-Jan-2007	23:00	0.0	---
8-Jan-2007	00:00	0.0	---
8-Jan-2007	01:00	0.0	---
8-Jan-2007	02:00	0.0	---
8-Jan-2007	03:00	0.0	W
8-Jan-2007	04:00	0.0	W
8-Jan-2007	05:00	1.8	WNW
8-Jan-2007	06:00	2.2	WNW
8-Jan-2007	07:00	3.1	WNW
8-Jan-2007	08:00	2.7	WNW
8-Jan-2007	09:00	2.2	WNW
8-Jan-2007	10:00	2.2	NW
8-Jan-2007	11:00	1.3	WNW
8-Jan-2007	12:00	1.8	WNW
8-Jan-2007	13:00	2.2	WSW
8-Jan-2007	14:00	1.8	WSW
8-Jan-2007	15:00	2.7	WSW
8-Jan-2007	16:00	2.7	WSW
8-Jan-2007	17:00	3.1	WSW
8-Jan-2007	18:00	2.2	WSW
8-Jan-2007	19:00	2.2	WSW
8-Jan-2007	20:00	2.7	SW
8-Jan-2007	21:00	1.8	WSW
8-Jan-2007	22:00	2.7	SW
8-Jan-2007	23:00	1.8	WSW
9-Jan-2007	00:00	0.9	WSW
9-Jan-2007	01:00	1.8	WSW
9-Jan-2007	02:00	1.8	WNW
9-Jan-2007	03:00	2.7	W
9-Jan-2007	04:00	2.7	WNW
9-Jan-2007	05:00	3.1	WNW
9-Jan-2007	06:00	3.1	WNW
9-Jan-2007	07:00	3.1	WNW
9-Jan-2007	08:00	2.7	WNW
9-Jan-2007	09:00	2.2	WNW
9-Jan-2007	10:00	2.2	WNW
9-Jan-2007	11:00	2.2	WNW
9-Jan-2007	12:00	2.2	NW
9-Jan-2007	13:00	2.2	WNW
9-Jan-2007	14:00	1.8	WNW
9-Jan-2007	15:00	1.8	WNW
9-Jan-2007	16:00	2.2	NW
9-Jan-2007	17:00	2.2	WNW
9-Jan-2007	18:00	0.9	W
9-Jan-2007	19:00	0.9	W
9-Jan-2007	20:00	0.4	W
9-Jan-2007	21:00	0.4	W
9-Jan-2007	22:00	0.4	W
9-Jan-2007	23:00	0.9	W

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
10-Jan-2007	00:00	0.4	W
10-Jan-2007	01:00	0.0	---
10-Jan-2007	02:00	0.0	SW
10-Jan-2007	03:00	0.4	SSW
10-Jan-2007	04:00	0.0	SSW
10-Jan-2007	05:00	0.0	WSW
10-Jan-2007	06:00	0.0	SSW
10-Jan-2007	07:00	0.9	SW
10-Jan-2007	08:00	1.8	SW
10-Jan-2007	09:00	1.8	SW
10-Jan-2007	10:00	2.2	SW
10-Jan-2007	11:00	2.7	SW
10-Jan-2007	12:00	2.7	SW
10-Jan-2007	13:00	3.1	SW
10-Jan-2007	14:00	2.7	SW
10-Jan-2007	15:00	2.7	W
10-Jan-2007	16:00	3.1	W
10-Jan-2007	17:00	1.8	SW
10-Jan-2007	18:00	2.7	W
10-Jan-2007	19:00	2.2	WNW
10-Jan-2007	20:00	2.2	WNW
10-Jan-2007	21:00	1.3	WNW
10-Jan-2007	22:00	1.8	WNW
10-Jan-2007	23:00	0.9	W
11-Jan-2007	00:00	0.9	W
11-Jan-2007	01:00	1.3	W
11-Jan-2007	02:00	1.3	WNW
11-Jan-2007	03:00	1.8	WNW
11-Jan-2007	04:00	1.8	W
11-Jan-2007	05:00	2.2	WNW
11-Jan-2007	06:00	1.3	WNW
11-Jan-2007	07:00	1.8	WNW
11-Jan-2007	08:00	0.9	W
11-Jan-2007	09:00	2.2	WNW
11-Jan-2007	10:00	2.2	WNW
11-Jan-2007	11:00	1.8	WNW
11-Jan-2007	12:00	2.7	WNW
11-Jan-2007	13:00	2.7	W
11-Jan-2007	14:00	1.8	WNW
11-Jan-2007	15:00	1.8	WNW
11-Jan-2007	16:00	0.9	WNW
11-Jan-2007	17:00	1.3	WNW
11-Jan-2007	18:00	0.9	WNW
11-Jan-2007	19:00	1.3	W
11-Jan-2007	20:00	0.9	WSW
11-Jan-2007	21:00	0.0	W
11-Jan-2007	22:00	1.3	S
11-Jan-2007	23:00	0.0	---
12-Jan-2007	00:00	0.0	---
12-Jan-2007	01:00	0.0	---
12-Jan-2007	02:00	0.0	SSW
12-Jan-2007	03:00	0.0	SSW
12-Jan-2007	04:00	0.0	SSW
12-Jan-2007	05:00	0.9	SSW



## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
12-Jan-2007	06:00	1.8	SSW
12-Jan-2007	07:00	1.3	SSW
12-Jan-2007	08:00	1.8	SSW
12-Jan-2007	09:00	3.6	WNW
12-Jan-2007	10:00	2.7	WNW
12-Jan-2007	11:00	2.7	WNW
12-Jan-2007	12:00	2.2	WNW
12-Jan-2007	13:00	0.9	WNW
12-Jan-2007	14:00	0.9	WNW
12-Jan-2007	15:00	0.4	WNW
12-Jan-2007	16:00	0.0	W
12-Jan-2007	17:00	0.0	---
12-Jan-2007	18:00	0.0	---
12-Jan-2007	19:00	0.0	---
12-Jan-2007	20:00	0.0	---
12-Jan-2007	21:00	0.0	S
12-Jan-2007	22:00	0.0	SW
12-Jan-2007	23:00	0.0	---
13-Jan-2007	00:00	0.0	---
13-Jan-2007	01:00	0.4	SSE
13-Jan-2007	02:00	0.9	W
13-Jan-2007	03:00	1.3	WNW
13-Jan-2007	04:00	0.9	WNW
13-Jan-2007	05:00	0.9	WNW
13-Jan-2007	06:00	1.3	WNW
13-Jan-2007	07:00	1.8	WNW
13-Jan-2007	08:00	2.7	WNW
13-Jan-2007	09:00	0.9	WNW
13-Jan-2007	10:00	0.4	W
13-Jan-2007	11:00	0.9	W
13-Jan-2007	12:00	2.2	WNW
13-Jan-2007	13:00	1.8	W
13-Jan-2007	14:00	0.9	W
13-Jan-2007	15:00	2.7	WNW
13-Jan-2007	16:00	1.8	W
13-Jan-2007	17:00	1.3	W
13-Jan-2007	18:00	1.8	W
13-Jan-2007	19:00	1.8	WNW
13-Jan-2007	20:00	1.8	WNW
13-Jan-2007	21:00	0.4	WNW
13-Jan-2007	22:00	1.3	WNW
13-Jan-2007	23:00	2.7	WNW
14-Jan-2007	00:00	2.7	WNW
14-Jan-2007	01:00	2.7	WSW
14-Jan-2007	02:00	3.1	WSW
14-Jan-2007	03:00	2.7	WNW
14-Jan-2007	04:00	1.3	WSW
14-Jan-2007	05:00	1.3	WSW
14-Jan-2007	06:00	0.0	SW
14-Jan-2007	07:00	0.4	WSW
14-Jan-2007	08:00	0.4	W
14-Jan-2007	09:00	0.0	---
14-Jan-2007	10:00	0.4	W
14-Jan-2007	11:00	0.4	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
14-Jan-2007	12:00	0.0	WNW
14-Jan-2007	13:00	0.0	---
14-Jan-2007	14:00	0.0	---
14-Jan-2007	15:00	0.0	WNW
14-Jan-2007	16:00	0.0	---
14-Jan-2007	17:00	0.0	WNW
14-Jan-2007	18:00	1.8	WNW
14-Jan-2007	19:00	2.7	WNW
14-Jan-2007	20:00	2.7	WNW
14-Jan-2007	21:00	3.1	WNW
14-Jan-2007	22:00	3.6	WNW
14-Jan-2007	23:00	3.6	WNW
15-Jan-2007	00:00	3.1	WNW
15-Jan-2007	01:00	2.7	W
15-Jan-2007	02:00	1.8	W
15-Jan-2007	03:00	0.4	W
15-Jan-2007	04:00	0.9	W
15-Jan-2007	05:00	1.3	W
15-Jan-2007	06:00	1.8	W
15-Jan-2007	07:00	1.8	W
15-Jan-2007	08:00	1.3	W
15-Jan-2007	09:00	0.9	W
15-Jan-2007	10:00	1.3	W
15-Jan-2007	11:00	2.2	W
15-Jan-2007	12:00	2.2	W
15-Jan-2007	13:00	1.8	W
15-Jan-2007	14:00	1.3	WNW
15-Jan-2007	15:00	2.2	W
15-Jan-2007	16:00	2.7	WNW
15-Jan-2007	17:00	2.2	WNW
15-Jan-2007	18:00	4.0	WNW
15-Jan-2007	19:00	4.0	WNW
15-Jan-2007	20:00	1.8	WNW
15-Jan-2007	21:00	1.8	WNW
15-Jan-2007	22:00	2.7	W
15-Jan-2007	23:00	2.7	WNW
16-Jan-2007	00:00	4.5	WNW
16-Jan-2007	01:00	4.0	WNW
16-Jan-2007	02:00	4.5	WNW
16-Jan-2007	03:00	4.9	WNW
16-Jan-2007	04:00	3.6	WNW
16-Jan-2007	05:00	3.6	W
16-Jan-2007	06:00	2.7	WNW
16-Jan-2007	07:00	0.4	WSW
16-Jan-2007	08:00	1.3	WNW
16-Jan-2007	09:00	1.3	W
16-Jan-2007	10:00	1.3	W
16-Jan-2007	11:00	1.8	W
16-Jan-2007	12:00	2.2	WNW
16-Jan-2007	13:00	2.7	WNW
16-Jan-2007	14:00	4.0	WNW
16-Jan-2007	15:00	4.0	WNW
16-Jan-2007	16:00	2.2	SW
16-Jan-2007	17:00	1.8	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
16-Jan-2007	18:00	2.2	WNW
16-Jan-2007	19:00	1.3	WNW
16-Jan-2007	20:00	1.8	W
16-Jan-2007	21:00	1.3	WNW
16-Jan-2007	22:00	1.3	WNW
16-Jan-2007	23:00	0.9	WNW
17-Jan-2007	00:00	2.7	WNW
17-Jan-2007	01:00	3.1	WNW
17-Jan-2007	02:00	3.1	WNW
17-Jan-2007	03:00	2.7	W
17-Jan-2007	04:00	2.7	WNW
17-Jan-2007	05:00	2.7	WNW
17-Jan-2007	06:00	2.2	WNW
17-Jan-2007	07:00	3.1	W
17-Jan-2007	08:00	4.0	WNW
17-Jan-2007	09:00	3.6	WNW
17-Jan-2007	10:00	3.1	W
17-Jan-2007	11:00	3.6	WNW
17-Jan-2007	12:00	3.1	WNW
17-Jan-2007	13:00	3.6	WNW
17-Jan-2007	14:00	4.0	WNW
17-Jan-2007	15:00	2.7	WNW
17-Jan-2007	16:00	2.7	WNW
17-Jan-2007	17:00	1.8	W
17-Jan-2007	18:00	1.3	W
17-Jan-2007	19:00	1.3	WSW
17-Jan-2007	20:00	0.4	SW
17-Jan-2007	21:00	0.9	WSW
17-Jan-2007	22:00	0.4	SW
17-Jan-2007	23:00	0.4	SW
18-Jan-2007	00:00	0.4	SSW
18-Jan-2007	01:00	0.9	SSW
18-Jan-2007	02:00	0.0	SSW
18-Jan-2007	03:00	1.3	WSW
18-Jan-2007	04:00	1.3	SSW
18-Jan-2007	05:00	1.3	WNW
18-Jan-2007	06:00	0.9	WNW
18-Jan-2007	07:00	0.9	WNW
18-Jan-2007	08:00	0.0	W
18-Jan-2007	09:00	0.9	WNW
18-Jan-2007	10:00	0.0	---
18-Jan-2007	11:00	0.4	WNW
18-Jan-2007	12:00	0.9	WNW
18-Jan-2007	13:00	0.0	---
18-Jan-2007	14:00	0.0	WNW
18-Jan-2007	15:00	0.0	WNW
18-Jan-2007	16:00	0.0	WNW
18-Jan-2007	17:00	0.4	W
18-Jan-2007	18:00	2.2	WNW
18-Jan-2007	19:00	1.8	WNW
18-Jan-2007	20:00	3.1	WNW
18-Jan-2007	21:00	1.8	WNW
18-Jan-2007	22:00	3.6	WNW
18-Jan-2007	23:00	2.2	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Jan-2007	00:00	1.8	WNW
19-Jan-2007	01:00	1.3	WNW
19-Jan-2007	02:00	0.4	WNW
19-Jan-2007	03:00	2.2	W
19-Jan-2007	04:00	0.9	WNW
19-Jan-2007	05:00	3.6	WNW
19-Jan-2007	06:00	2.2	WNW
19-Jan-2007	07:00	4.5	WNW
19-Jan-2007	08:00	4.0	WNW
19-Jan-2007	09:00	4.0	WNW
19-Jan-2007	10:00	1.8	WNW
19-Jan-2007	11:00	1.8	WNW
19-Jan-2007	12:00	1.8	WNW
19-Jan-2007	13:00	1.8	WNW
19-Jan-2007	14:00	1.3	WNW
19-Jan-2007	15:00	0.4	WNW
19-Jan-2007	16:00	0.9	WNW
19-Jan-2007	17:00	0.9	ESE
19-Jan-2007	18:00	0.9	ESE
19-Jan-2007	19:00	0.4	ESE
19-Jan-2007	20:00	0.9	ESE
19-Jan-2007	21:00	0.0	---
19-Jan-2007	22:00	0.0	---
19-Jan-2007	23:00	0.0	ESE
20-Jan-2007	00:00	0.0	---
20-Jan-2007	01:00	0.0	---
20-Jan-2007	02:00	0.0	---
20-Jan-2007	03:00	0.0	SW
20-Jan-2007	04:00	0.0	SW
20-Jan-2007	05:00	0.0	WSW
20-Jan-2007	06:00	0.4	SW
20-Jan-2007	07:00	0.0	SW
20-Jan-2007	08:00	0.0	WNW
20-Jan-2007	09:00	0.4	WNW
20-Jan-2007	10:00	1.8	W
20-Jan-2007	11:00	0.9	WNW
20-Jan-2007	12:00	0.9	WNW
20-Jan-2007	13:00	0.9	W
20-Jan-2007	14:00	0.9	WNW
20-Jan-2007	15:00	0.9	WNW
20-Jan-2007	16:00	0.4	W
20-Jan-2007	17:00	0.4	WNW
20-Jan-2007	18:00	0.0	N
20-Jan-2007	19:00	0.0	SSE
20-Jan-2007	20:00	0.0	E
20-Jan-2007	21:00	0.0	---
20-Jan-2007	22:00	0.4	S
20-Jan-2007	23:00	0.9	SW
21-Jan-2007	00:00	0.0	W
21-Jan-2007	01:00	0.9	WNW
21-Jan-2007	02:00	0.9	WNW
21-Jan-2007	03:00	2.2	WNW
21-Jan-2007	04:00	1.8	WNW
21-Jan-2007	05:00	2.7	W

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
21-Jan-2007	06:00	2.7	WNW
21-Jan-2007	07:00	2.2	W
21-Jan-2007	08:00	2.2	WNW
21-Jan-2007	09:00	3.1	WNW
21-Jan-2007	10:00	2.7	WNW
21-Jan-2007	11:00	2.2	WNW
21-Jan-2007	12:00	2.2	WNW
21-Jan-2007	13:00	2.2	WNW
21-Jan-2007	14:00	2.2	WNW
21-Jan-2007	15:00	1.3	SW
21-Jan-2007	16:00	1.8	W
21-Jan-2007	17:00	2.7	WNW
21-Jan-2007	18:00	3.6	WNW
21-Jan-2007	19:00	1.8	WNW
21-Jan-2007	20:00	1.8	WNW
21-Jan-2007	21:00	2.2	WNW
21-Jan-2007	22:00	1.8	WNW
21-Jan-2007	23:00	0.9	WSW
22-Jan-2007	00:00	1.8	WNW
22-Jan-2007	01:00	2.2	WNW
22-Jan-2007	02:00	2.7	WNW
22-Jan-2007	03:00	2.7	WNW
22-Jan-2007	04:00	2.7	WNW
22-Jan-2007	05:00	2.2	WNW
22-Jan-2007	06:00	2.2	WNW
22-Jan-2007	07:00	2.2	W
22-Jan-2007	08:00	1.8	WNW
22-Jan-2007	09:00	0.9	WNW
22-Jan-2007	10:00	1.3	W
22-Jan-2007	11:00	0.4	W
22-Jan-2007	12:00	0.0	W
22-Jan-2007	13:00	0.4	W
22-Jan-2007	14:00	0.9	SSW
22-Jan-2007	15:00	0.0	---
22-Jan-2007	16:00	1.3	W
22-Jan-2007	17:00	0.9	W
22-Jan-2007	18:00	0.0	---
22-Jan-2007	19:00	0.0	NW
22-Jan-2007	20:00	0.4	WNW
22-Jan-2007	21:00	0.0	---
22-Jan-2007	22:00	0.9	WNW
22-Jan-2007	23:00	0.0	WNW
23-Jan-2007	00:00	2.7	W
23-Jan-2007	01:00	2.7	WNW
23-Jan-2007	02:00	3.6	W
23-Jan-2007	03:00	0.9	WNW
23-Jan-2007	04:00	1.3	WNW
23-Jan-2007	05:00	1.3	WNW
23-Jan-2007	06:00	0.9	W
23-Jan-2007	07:00	0.4	WNW
23-Jan-2007	08:00	0.9	WNW
23-Jan-2007	09:00	0.4	WNW
23-Jan-2007	10:00	0.4	W
23-Jan-2007	11:00	0.9	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
23-Jan-2007	12:00	0.4	W
23-Jan-2007	13:00	0.9	W
23-Jan-2007	14:00	0.9	W
23-Jan-2007	15:00	1.8	WNW
23-Jan-2007	16:00	0.4	WNW
23-Jan-2007	17:00	1.8	WNW
23-Jan-2007	18:00	1.3	WNW
23-Jan-2007	19:00	2.7	WNW
23-Jan-2007	20:00	3.1	WNW
23-Jan-2007	21:00	3.1	WNW
23-Jan-2007	22:00	2.7	WNW
23-Jan-2007	23:00	2.7	WNW
24-Jan-2007	00:00	2.2	WNW
24-Jan-2007	01:00	2.2	WNW
24-Jan-2007	02:00	3.1	WNW
24-Jan-2007	03:00	2.7	WNW
24-Jan-2007	04:00	2.2	WNW
24-Jan-2007	05:00	2.2	WNW
24-Jan-2007	06:00	0.4	WNW
24-Jan-2007	07:00	0.9	WNW
24-Jan-2007	08:00	1.3	WNW
24-Jan-2007	09:00	0.9	WNW
24-Jan-2007	10:00	0.0	NW
24-Jan-2007	11:00	0.0	NW
24-Jan-2007	12:00	0.0	---
24-Jan-2007	13:00	0.0	NW
24-Jan-2007	14:00	0.0	SSW
24-Jan-2007	15:00	0.0	WSW
24-Jan-2007	16:00	0.0	WSW
24-Jan-2007	17:00	0.9	WNW
24-Jan-2007	18:00	0.0	W
24-Jan-2007	19:00	0.4	WSW
24-Jan-2007	20:00	1.3	SW
24-Jan-2007	21:00	1.3	SW
24-Jan-2007	22:00	1.3	WSW
24-Jan-2007	23:00	0.9	SW
25-Jan-2007	00:00	1.3	W
25-Jan-2007	01:00	1.3	WSW
25-Jan-2007	02:00	2.2	WSW
25-Jan-2007	03:00	2.7	WNW
25-Jan-2007	04:00	2.2	W
25-Jan-2007	05:00	1.3	W
25-Jan-2007	06:00	2.7	W
25-Jan-2007	07:00	2.7	WSW
25-Jan-2007	08:00	2.2	WSW
25-Jan-2007	09:00	1.8	WSW
25-Jan-2007	10:00	1.8	WNW
25-Jan-2007	11:00	2.7	WNW
25-Jan-2007	12:00	3.1	WSW
25-Jan-2007	13:00	2.7	W
25-Jan-2007	14:00	1.8	W
25-Jan-2007	15:00	2.2	WNW
25-Jan-2007	16:00	2.7	WSW
25-Jan-2007	17:00	2.2	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
25-Jan-2007	18:00	0.9	W
25-Jan-2007	19:00	1.3	WNW
25-Jan-2007	20:00	3.1	WNW
25-Jan-2007	21:00	2.2	WNW
25-Jan-2007	22:00	2.7	WNW
25-Jan-2007	23:00	0.4	WNW
26-Jan-2007	00:00	0.9	WSW
26-Jan-2007	01:00	0.9	WSW
26-Jan-2007	02:00	0.4	WSW
26-Jan-2007	03:00	0.4	WSW
26-Jan-2007	04:00	1.8	WNW
26-Jan-2007	05:00	1.8	WNW
26-Jan-2007	06:00	1.8	WNW
26-Jan-2007	07:00	1.8	WNW
26-Jan-2007	08:00	1.3	WSW
26-Jan-2007	09:00	1.3	SW
26-Jan-2007	10:00	1.3	WSW
26-Jan-2007	11:00	0.9	WSW
26-Jan-2007	12:00	0.9	W
26-Jan-2007	13:00	0.4	W
26-Jan-2007	14:00	1.3	W
26-Jan-2007	15:00	1.8	WNW
26-Jan-2007	16:00	2.2	WNW
26-Jan-2007	17:00	2.2	WNW
26-Jan-2007	18:00	2.2	WNW
26-Jan-2007	19:00	2.7	WNW
26-Jan-2007	20:00	2.2	W
26-Jan-2007	21:00	2.2	W
26-Jan-2007	22:00	2.7	WNW
26-Jan-2007	23:00	1.8	WNW
27-Jan-2007	00:00	1.3	W
27-Jan-2007	01:00	1.8	WNW
27-Jan-2007	02:00	3.1	W
27-Jan-2007	03:00	3.6	WNW
27-Jan-2007	04:00	4.9	WNW
27-Jan-2007	05:00	4.0	WNW
27-Jan-2007	06:00	3.1	WNW
27-Jan-2007	07:00	2.2	WNW
27-Jan-2007	08:00	1.3	WNW
27-Jan-2007	09:00	2.2	WNW
27-Jan-2007	10:00	2.7	WNW
27-Jan-2007	11:00	1.8	W
27-Jan-2007	12:00	1.8	WNW
27-Jan-2007	13:00	2.2	W
27-Jan-2007	14:00	2.2	WSW
27-Jan-2007	15:00	2.7	SW
27-Jan-2007	16:00	1.8	WSW
27-Jan-2007	17:00	1.3	W
27-Jan-2007	18:00	1.3	W
27-Jan-2007	19:00	1.3	W
27-Jan-2007	20:00	0.9	WSW
27-Jan-2007	21:00	0.4	WSW
27-Jan-2007	22:00	0.0	SSW
27-Jan-2007	23:00	0.4	SSW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
28-Jan-2007	00:00	0.9	S
28-Jan-2007	01:00	0.9	SW
28-Jan-2007	02:00	0.9	SW
28-Jan-2007	03:00	0.9	W
28-Jan-2007	04:00	0.4	WSW
28-Jan-2007	05:00	1.8	SW
28-Jan-2007	06:00	2.7	WSW
28-Jan-2007	07:00	2.7	WSW
28-Jan-2007	08:00	2.7	SW
28-Jan-2007	09:00	2.7	SW
28-Jan-2007	10:00	2.2	WSW
28-Jan-2007	11:00	2.7	WSW
28-Jan-2007	12:00	2.2	WSW
28-Jan-2007	13:00	2.2	WSW
28-Jan-2007	14:00	2.7	WSW
28-Jan-2007	15:00	2.2	WSW
28-Jan-2007	16:00	2.7	WSW
28-Jan-2007	17:00	2.2	WSW
28-Jan-2007	18:00	2.2	SW
28-Jan-2007	19:00	2.2	WSW
28-Jan-2007	20:00	1.8	WSW
28-Jan-2007	21:00	2.7	WNW
28-Jan-2007	22:00	2.2	WNW
28-Jan-2007	23:00	4.0	WNW
29-Jan-2007	00:00	3.6	WNW
29-Jan-2007	01:00	4.9	WNW
29-Jan-2007	02:00	4.9	WNW
29-Jan-2007	03:00	4.0	WNW
29-Jan-2007	04:00	3.6	WNW
29-Jan-2007	05:00	4.5	WNW
29-Jan-2007	06:00	4.5	WNW
29-Jan-2007	07:00	3.6	WNW
29-Jan-2007	08:00	3.1	WNW
29-Jan-2007	09:00	2.2	WNW
29-Jan-2007	10:00	2.7	WNW
29-Jan-2007	11:00	3.6	WNW
29-Jan-2007	12:00	3.1	WNW
29-Jan-2007	13:00	3.6	WNW
29-Jan-2007	14:00	3.1	WNW
29-Jan-2007	15:00	3.1	WNW
29-Jan-2007	16:00	3.6	WNW
29-Jan-2007	17:00	3.1	WNW
29-Jan-2007	18:00	3.1	WNW
29-Jan-2007	19:00	2.2	WNW
29-Jan-2007	20:00	1.3	SW
29-Jan-2007	21:00	1.3	SSW
29-Jan-2007	22:00	0.9	S
29-Jan-2007	23:00	0.9	S
30-Jan-2007	00:00	0.9	S
30-Jan-2007	01:00	0.0	S
30-Jan-2007	02:00	0.0	---
30-Jan-2007	03:00	0.0	---
30-Jan-2007	04:00	0.0	---
30-Jan-2007	05:00	0.0	---



## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
30-Jan-2007	06:00	0.4	SW
30-Jan-2007	07:00	0.0	SW
30-Jan-2007	08:00	0.0	SSW
30-Jan-2007	09:00	0.4	SW
30-Jan-2007	10:00	0.4	W
30-Jan-2007	11:00	0.9	NW
30-Jan-2007	12:00	0.9	SW
30-Jan-2007	13:00	1.3	SW
30-Jan-2007	14:00	1.3	WNW
30-Jan-2007	15:00	0.4	WNW
30-Jan-2007	16:00	0.4	WNW
30-Jan-2007	17:00	0.4	NW
30-Jan-2007	18:00	1.3	WNW
30-Jan-2007	19:00	0.9	WNW
30-Jan-2007	20:00	1.3	WSW
30-Jan-2007	21:00	1.3	WNW
30-Jan-2007	22:00	2.2	WNW
30-Jan-2007	23:00	2.2	WNW
31-Jan-2007	00:00	3.1	WNW
31-Jan-2007	01:00	3.6	WNW
31-Jan-2007	02:00	3.1	WNW
31-Jan-2007	03:00	2.7	WNW
31-Jan-2007	04:00	2.2	WNW
31-Jan-2007	05:00	2.2	WNW
31-Jan-2007	06:00	2.2	WNW
31-Jan-2007	07:00	1.8	WNW
31-Jan-2007	08:00	2.7	WNW
31-Jan-2007	09:00	2.2	WNW
31-Jan-2007	10:00	1.8	WNW
31-Jan-2007	11:00	2.2	WNW
31-Jan-2007	12:00	0.9	WNW
31-Jan-2007	13:00	1.3	WNW
31-Jan-2007	14:00	0.9	WNW
31-Jan-2007	15:00	0.9	WNW
31-Jan-2007	16:00	0.9	WNW
31-Jan-2007	17:00	2.7	WNW
31-Jan-2007	18:00	0.9	NW
31-Jan-2007	19:00	0.4	SW
31-Jan-2007	20:00	0.0	SSW
31-Jan-2007	21:00	0.0	---
31-Jan-2007	22:00	0.0	---
31-Jan-2007	23:00	0.0	---

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**APPENDIX E  
1-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATION**

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## Appendix E - 1-hour TSP Monitoring Results

### Location AM1 - Po Leung Kuk Choi Kai Yau School

Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final							
2-Jan-07	Cloudy	2.8818	2.8943	1.23	1.23	5286.1	5287.1	292.4	764.8	0.0125	1.23	73.5	1.0	170.0
3-Jan-07	Cloudy	2.8680	2.8740	1.22	1.22	5311.1	5312.1	293.7	763.0	0.0060	1.22	73.3	1.0	81.9
5-Jan-07	Sunshine	2.8904	2.8926	1.24	1.24	5312.1	5313.1	288.0	768.5	0.0022	1.24	74.2	1.0	29.6
9-Jan-07	Sunshine	2.9058	2.9110	1.25	1.25	5337.1	5338.1	284.9	772.3	0.0052	1.25	74.7	1.0	69.6
11-Jan-07	Sunshine	2.8915	2.9076	1.23	1.23	5338.1	5339.1	290.3	768.2	0.0161	1.23	73.9	1.0	217.8
12-Jan-07	Cloudy	2.8585	2.8647	1.23	1.23	5339.1	5340.1	291.3	768.3	0.0062	1.23	73.8	1.0	84.0
15-Jan-07	Sunshine	2.8682	2.8700	1.22	1.22	5364.1	5365.1	285.2	771.3	0.0018	1.22	73.3	1.0	24.6
16-Jan-07	Sunshine	2.8795	2.8845	1.23	1.22	5365.1	5366.1	293.2	766.5	0.0050	1.23	73.5	1.0	68.0
18-Jan-07	Sunshine	2.8680	2.8742	1.22	1.22	5366.1	5367.1	286.6	768.8	0.0062	1.22	73.5	1.0	84.4
22-Jan-07	Cloudy	2.8843	2.8869	1.22	1.22	5391.1	5392.1	288.2	768.5	0.0026	1.22	73.3	1.0	35.5
23-Jan-07	Sunshine	2.8479	2.8536	1.23	1.23	5392.1	5393.1	289.1	769.6	0.0057	1.23	73.2	1.0	77.9
26-Jan-07	Sunshine	2.8692	2.8760	1.23	1.23	5418.1	5419.1	286.7	776.2	0.0068	1.23	73.8	1.0	92.2
29-Jan-07	Cloudy	2.8891	2.9025	1.23	1.23	5419.1	5420.1	283.6	772.1	0.0134	1.23	74.0	1.0	181.2
30-Jan-07	Sunshine	2.8658	2.8762	1.23	1.23	5420.1	5421.1	285.9	771.5	0.0104	1.23	73.7	1.0	141.2
													Min	24.6
													Max	217.8
													Average	97.0

### Location AM 3 - Garden Villa

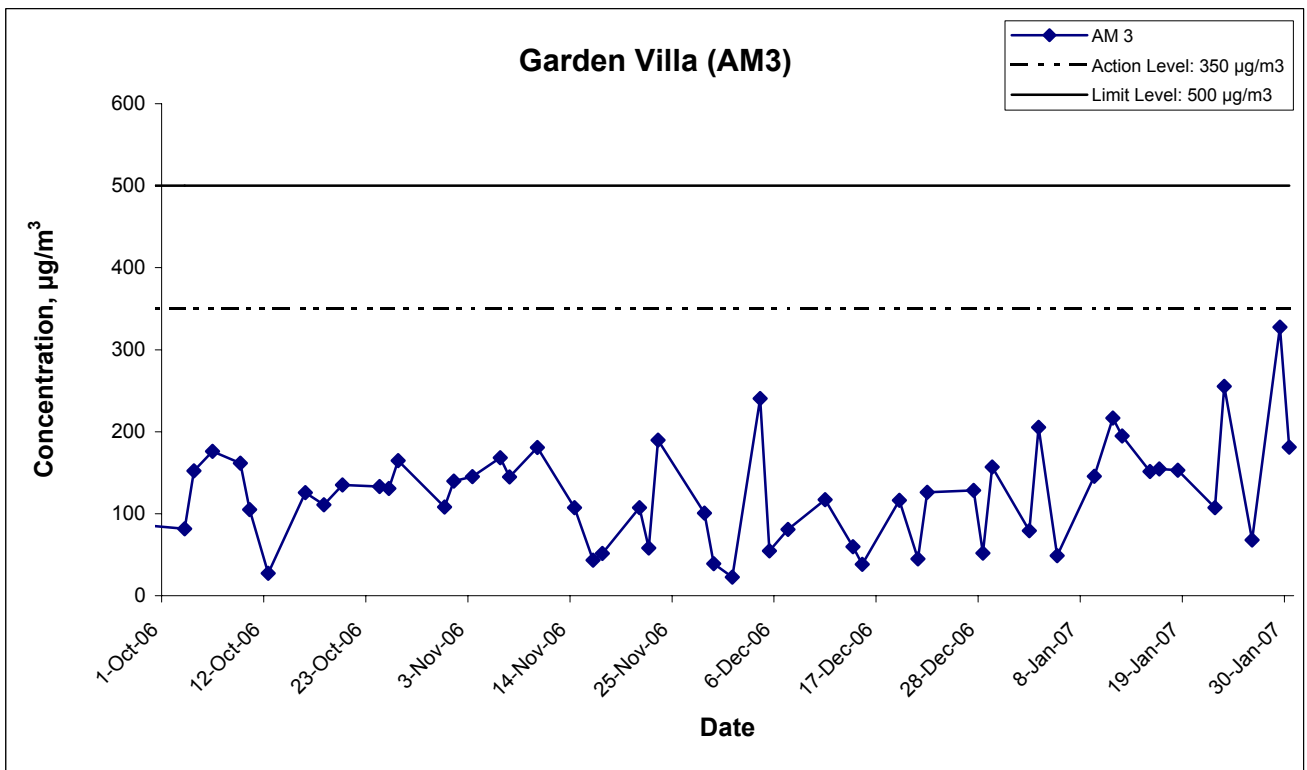
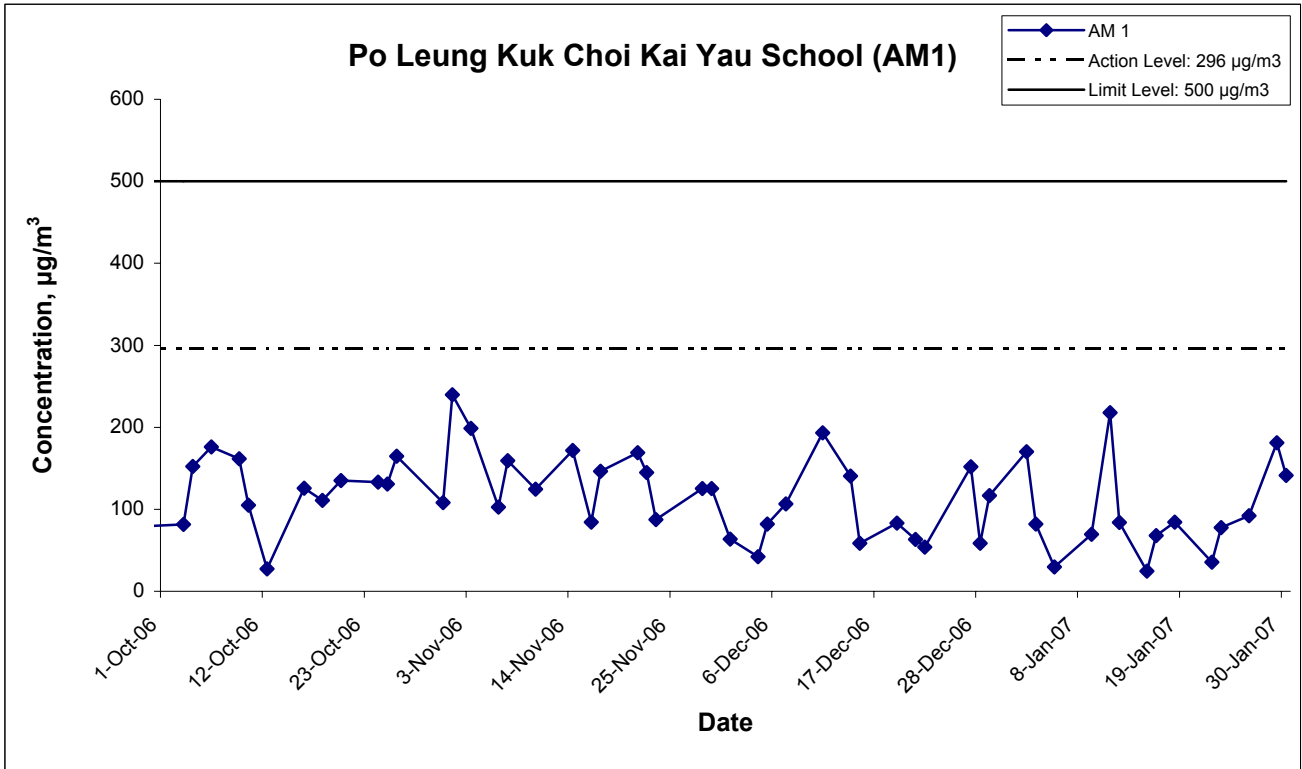
Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final							
2-Jan-07	Cloudy	2.8473	2.8531	1.22	1.22	5129.1	5130.1	293.7	763.0	0.0058	1.22	73.0	1.0	79.4
3-Jan-07	Cloudy	2.8915	2.9065	1.22	1.22	5154.1	5155.1	292.4	764.7	0.0150	1.22	73.1	1.0	205.2
5-Jan-07	Sunshine	2.8861	2.8897	1.23	1.23	5155.1	5156.1	288.5	768.1	0.0036	1.23	73.6	1.0	48.9
9-Jan-07	Sunshine	2.8583	2.8691	1.23	1.23	5180.1	5181.1	284.7	772.4	0.0108	1.23	74.1	1.0	145.7
11-Jan-07	Cloudy	2.8647	2.8806	1.22	1.22	5181.1	5182.1	290.1	768.4	0.0159	1.22	73.4	1.0	216.5
12-Jan-07	Cloudy	2.8932	2.9075	1.22	1.22	5182.1	5183.1	291.1	768.5	0.0143	1.22	73.3	1.0	195.0
15-Jan-07	Sunshine	2.8984	2.9095	1.22	1.22	5207.1	5208.1	290.9	768.2	0.0111	1.22	73.4	1.0	151.3
16-Jan-07	Sunshine	2.8757	2.8870	1.22	1.22	5208.1	5209.1	293.2	766.5	0.0113	1.22	73.1	1.0	154.6
18-Jan-07	Cloudy	2.8652	2.8765	1.23	1.23	5209.1	5210.1	286.4	769.0	0.0113	1.23	73.8	1.0	153.1
22-Jan-07	Cloudy	2.8857	2.8936	1.23	1.23	5234.1	5235.1	288.2	768.5	0.0079	1.23	73.6	1.0	107.3
23-Jan-07	Cloudy	2.8757	2.8945	1.23	1.23	5235.1	5236.1	288.9	769.7	0.0188	1.23	73.6	1.0	255.4
26-Jan-07	Sunshine	2.8709	2.8759	1.23	1.23	5260.1	5261.1	286.9	769.9	0.0050	1.23	73.8	1.0	67.8
29-Jan-07	Cloudy	2.8793	2.9036	1.24	1.24	5261.1	5262.1	283.6	772.1	0.0243	1.24	74.2	1.0	327.5
30-Jan-07	Sunshine	2.8871	2.9005	1.23	1.23	5262.1	5263.1	285.9	771.5	0.0134	1.23	74.0	1.0	181.2
													Min	48.9
													Max	327.5
													Average	163.5

## Appendix E - 1-hour TSP Monitoring Results

### Location AM 4 - Government Quarters

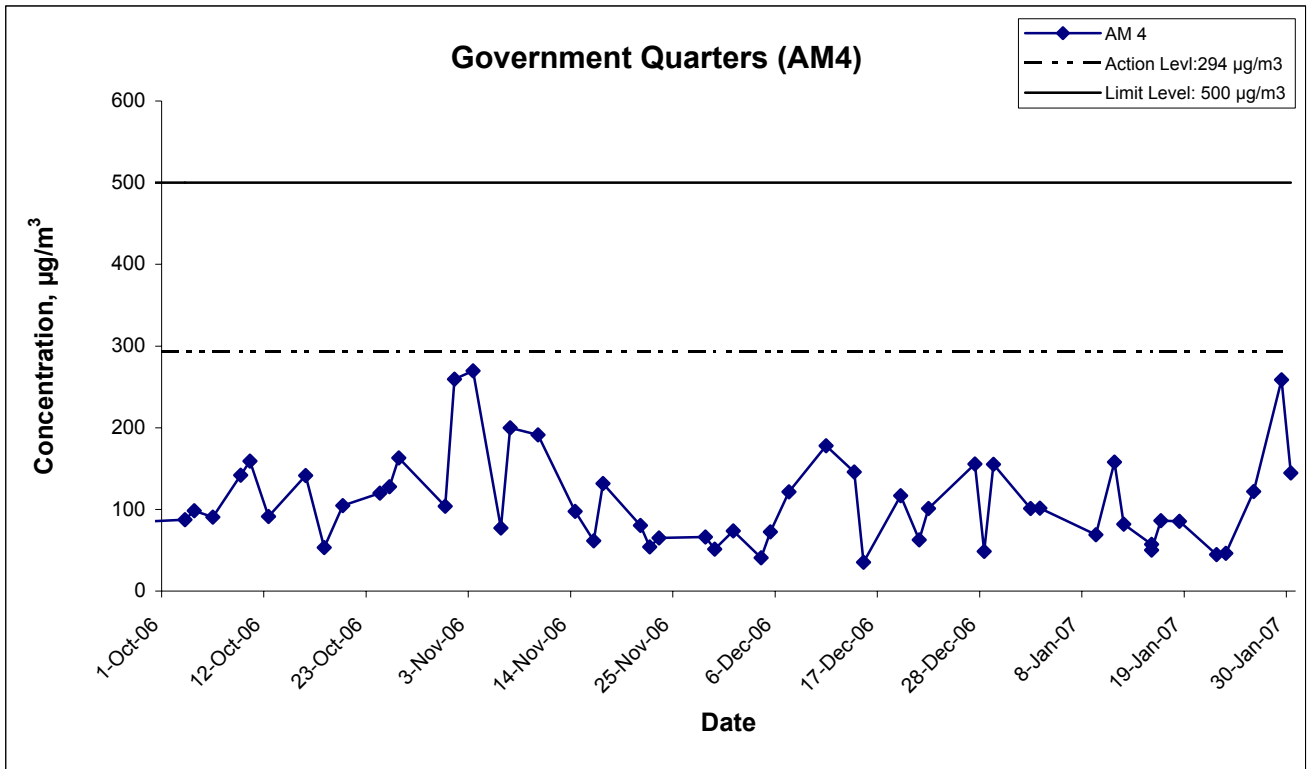
Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final							
2-Jan-07	Cloudy	2.8764	2.8839	1.24	1.24	5241.5	5242.5	292.4	764.8	0.0075	1.24	74.3	1.0	101.0
3-Jan-07	Cloudy	2.8516	2.8591	1.23	1.23	5266.5	5267.5	293.7	763.0	0.0075	1.23	74.0	1.0	101.6
15-Jan-07	Sunshine	2.8809	2.8852	1.25	1.25	5267.5	5268.5	288.0	768.5	0.0043	1.25	75.0	1.0	57.3
9-Jan-07	Sunshine	2.8609	2.8661	1.26	1.26	5292.5	5293.5	284.9	772.3	0.0052	1.26	75.6	1.0	68.8
11-Jan-07	Sunshine	2.8903	2.9021	1.25	1.25	5293.5	5294.5	290.3	768.2	0.0118	1.25	74.7	1.0	158.0
12-Jan-07	Cloudy	2.8639	2.8700	1.24	1.24	5294.5	5295.5	291.3	768.3	0.0061	1.24	74.6	1.0	81.8
15-Jan-07	Sunshine	2.8777	2.8814	1.23	1.23	5319.5	5320.5	285.2	766.3	0.0037	1.23	74.0	1.0	50.0
16-Jan-07	Sunshine	2.8310	2.8374	1.24	1.24	5320.5	5321.5	293.2	766.5	0.0064	1.24	74.2	1.0	86.2
18-Jan-07	Sunshine	2.8762	2.8825	1.23	1.23	5321.5	5322.5	286.6	768.8	0.0063	1.23	73.7	1.0	85.4
22-Jan-07	Cloudy	2.8792	2.8825	1.23	1.23	5346.5	5347.5	288.2	768.5	0.0033	1.23	73.6	1.0	44.9
23-Jan-07	Sunshine	2.8799	2.8833	1.23	1.23	5347.5	5348.5	289.1	769.6	0.0034	1.23	73.5	1.0	46.3
26-Jan-07	Sunshine	2.8671	2.8761	1.23	1.23	5372.5	5373.5	286.5	770.4	0.0090	1.23	73.8	1.0	121.9
29-Jan-07	Cloudy	2.8716	2.8908	1.24	1.24	5373.5	5374.5	283.6	772.1	0.0192	1.24	74.2	1.0	258.8
30-Jan-07	Sunshine	2.8577	2.8684	1.23	1.23	5374.5	5375.5	285.9	771.5	0.0107	1.23	73.9	1.0	144.8
													Min	44.9
													Max	258.8
													Average	100.5

### 1-hr TSP Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date Jan 07	Appendix E	

# 1-hr TSP Levels



Title  
 Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin  
 Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works  
 Graphical Presentation of 1-hour TSP Impact Monitoring  
 Results

Scale  
 N.T.S  
 Date  
 Jan 07

Project  
 No. MA3024  
 Appendix  
 E



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**APPENDIX F  
24-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATION**

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## Appendix F - 24-hour TSP Monitoring Results

### Location AM1 - Po Leung Kuk Choi Kai Yau School

Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	
		Initial	Final	Initial	Final	Initial	Final								
2-Jan-07	Cloudy	2.9134	2.9987	1.22	1.22	5287.1	5311.1	292.9	764.1	0.0853	1.22	1762.4	24.0	48.4	
8-Jan-07	Sunshine	2.8904	3.0504	1.25	1.25	5313.1	5337.1	284.1	773.0	0.1600	1.25	1796.8	24.0	89.0	
13-Jan-07	Sunshine	2.8545	3.0230	1.24	1.24	5340.1	5364.1	288.5	769.5	0.1685	6.74	1781.2	24.0	94.6	
19-Jan-07	Cloudy	2.8661	3.0458	1.22	1.22	5367.1	5391.1	288.4	768.5	0.1797	1.22	1757.6	24.0	102.2	
25-Jan-07	Sunshine	2.8890	2.9917	1.23	1.23	5394.1	5418.1	286.1	771.2	0.1027	1.23	1767.0	24.0	58.1	
31-Jan-07	Sunshine	2.8351	3.0417	1.22	1.22	5421.1	5445.1	289.5	770.2	0.2066	1.22	1756.3	24.0	117.6	
														Min	48.4
														Max	117.6
														Average	85.0

### Location AM 3 - Garden Villa

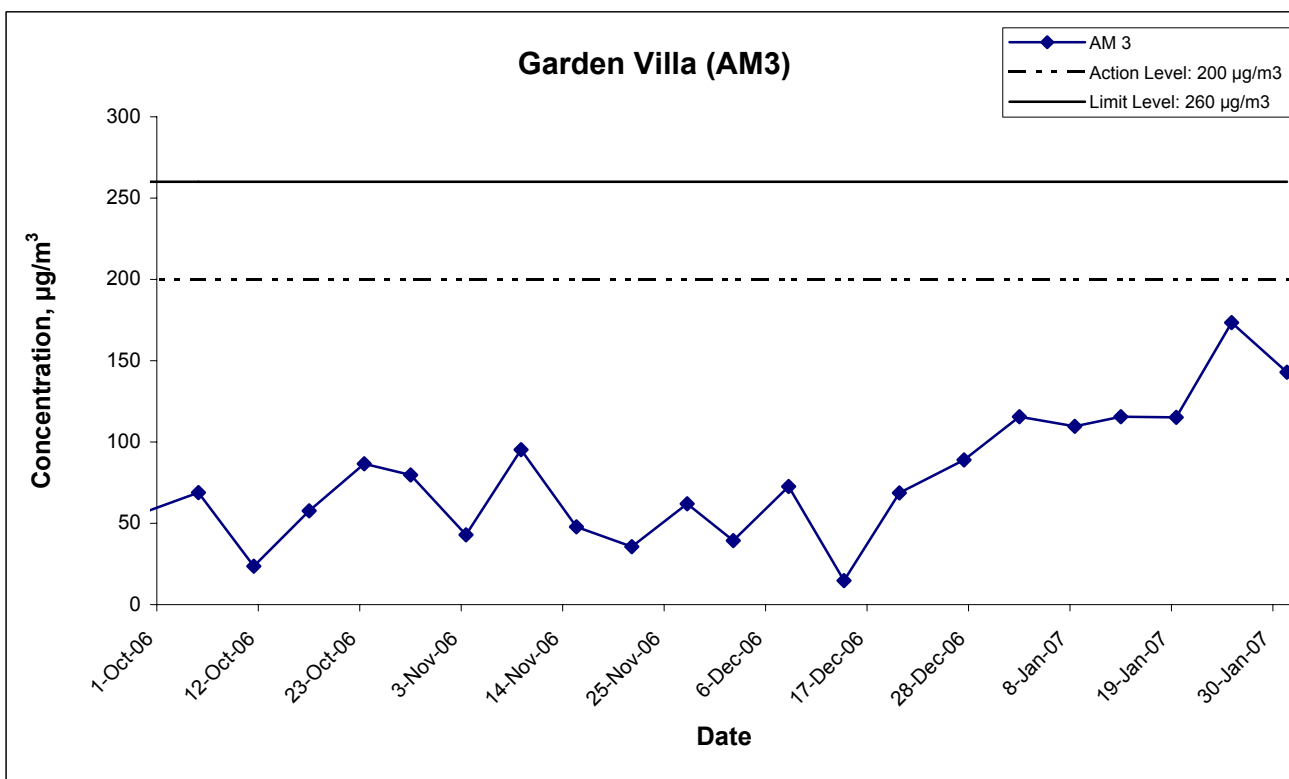
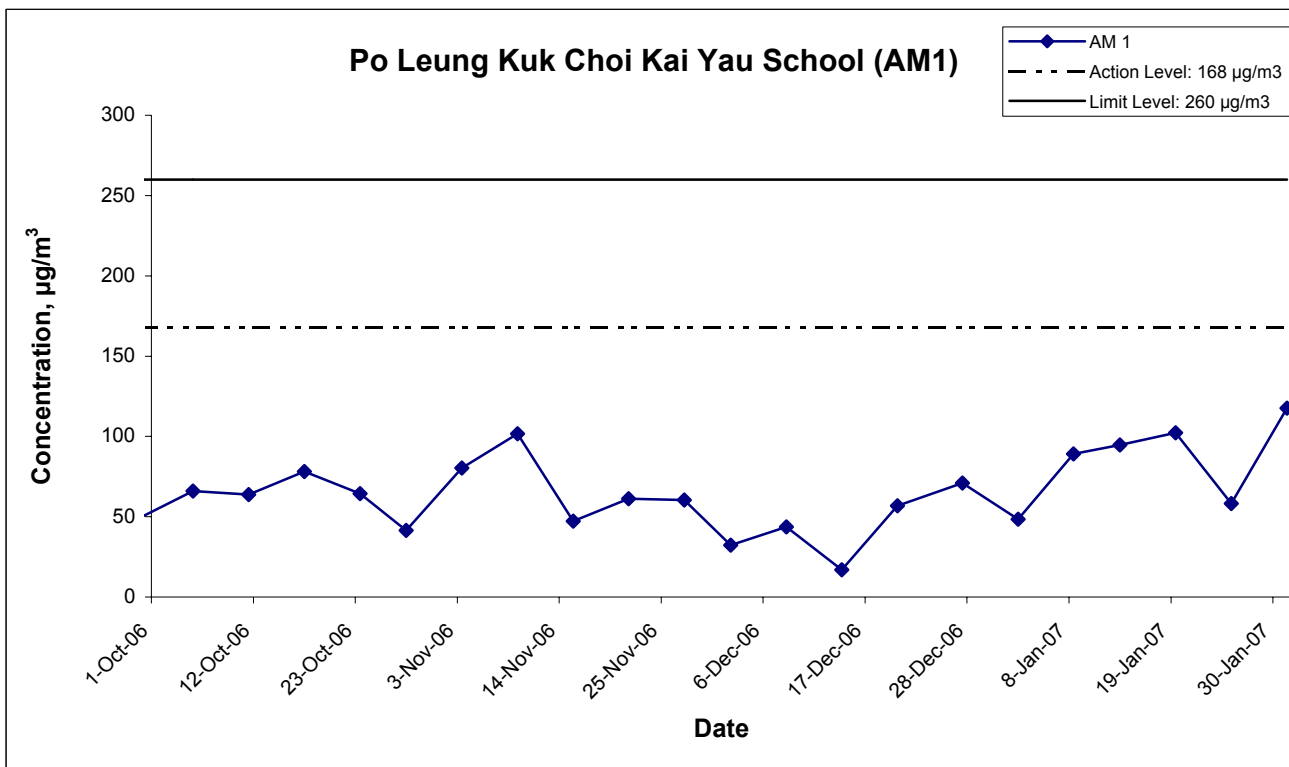
Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	
		Initial	Final	Initial	Final	Initial	Final								
2-Jan-07	Cloudy	2.8626	3.0649	1.22	1.22	5130.1	5154.1	293.2	764.3	0.2023	1.22	1751.8	24.0	115.5	
8-Jan-07	Sunshine	2.8553	3.0507	1.24	1.24	5156.1	5180.1	283.9	773.1	0.1954	1.24	1780.9	24.0	109.7	
13-Jan-07	Sunshine	2.8296	3.0337	1.23	1.23	5183.1	5207.1	288.5	769.5	0.2041	1.23	1767.0	24.0	115.5	
19-Jan-07	Cloudy	2.8771	3.0107	1.23	1.23	5210.1	5234.1	288.2	768.7	0.2036	1.23	1767.0	24.0	115.2	
25-Jan-07	Sunshine	2.8763	3.1841	1.23	1.23	5236.1	5260.1	286.1	771.2	0.3078	1.23	1774.1	24.0	173.5	
31-Jan-07	Sunshine	2.8599	3.1121	1.23	1.23	5263.1	5287.1	289.5	770.2	0.2522	1.23	1765.3	24.0	142.9	
														Min	109.7
														Max	173.5
														Average	128.7

### Location AM 4 - Government Quarters

Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	
		Initial	Final	Initial	Final	Initial	Final								
2-Jan-07	Cloudy	2.8677	2.9771	1.24	1.24	5242.5	5266.5	292.9	764.1	0.1094	1.24	1779.8	24.0	61.5	
8-Jan-07	Sunshine	2.8686	3.0707	1.26	1.26	5268.5	5292.5	284.1	773.0	0.2021	1.26	1817.5	24.0	111.2	
13-Jan-07	Sunshine	2.8551	3.1211	1.25	1.25	5295.5	5319.5	288.5	769.5	0.2660	1.25	1799.6	24.0	147.8	
19-Jan-07	Cloudy	2.8576	3.0576	1.23	1.23	5322.5	5346.5	288.4	768.5	0.2000	1.23	1764.6	24.0	113.3	
25-Jan-07	Sunshine	2.8812	3.1386	1.23	1.23	5348.5	5372.5	286.1	771.2	0.2574	1.23	1773.3	24.0	145.2	
31-Jan-07	Sunshine	2.8410	3.0682	1.22	1.22	5375.5	5399.5	289.5	770.2	0.2272	1.22	1763.4	24.0	128.8	
														Min	61.5
														Max	147.8
														Average	118.0

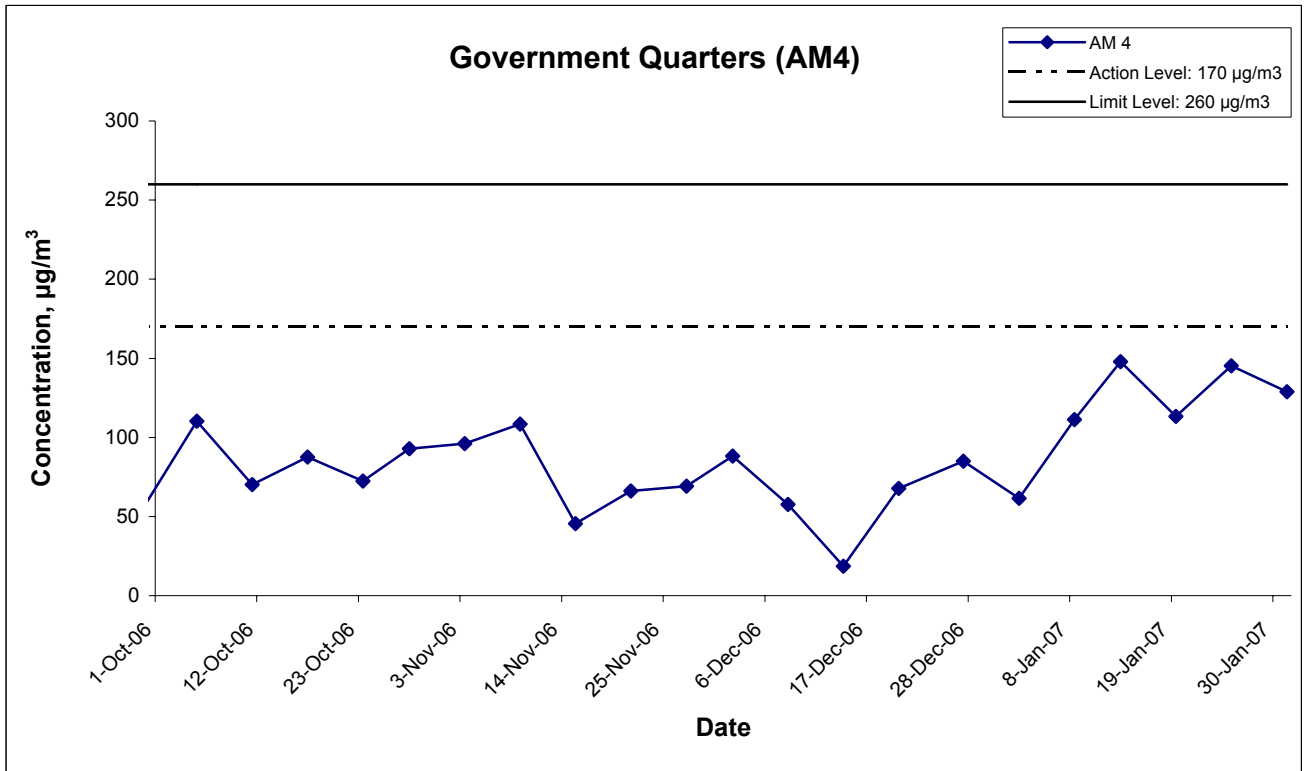


## 24-hr TSP Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 24-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date Jan 07	Appendix F	

## 24-hr TSP Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 24-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date Jan 07	Appendix F	

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**APPENDIX G  
NOISE MONITORING RESULTS AND  
GRAPHICAL PRESENTATION**

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## Appendix G - Noise Monitoring Results

Location NM1 - Po Leung Kuk Choi Kai Yau School						
Date	Time	Weather	Unit: dB (A) (30-min)			Remarks
			Measured Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	
2-Jan-07	10:47	Sunny	56.3	59.0	53.0	-
9-Jan-07	09:12	Sunny	61.1	64.0	57.5	
15-Jan-07	09:10	Sunny	66.4	69.5	63.0	
22-Jan-07	16:04	Cloudy	62.2	64.5	58.0	
29-Jan-07	10:50	Sunny	66.3	69.0	62.0	

Location NM5 - Villa Carlton								
Date	Time	Weather	Unit: dB (A) (30-min)			Baseline Level	Construction Noise Level	Remarks
			Measured Noise Level					
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>			
2-Jan-07	09:17	Sunny	74.7	78.5	69.5	77.1	74.7, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
9-Jan-07	11:22	Sunny	74.2	77.5	68.5		74.2, Measured ≤ Baseline	
15-Jan-07	10:00	Sunny	75.7	78.5	70.5		77.1, Measured ≤ Baseline	
22-Jan-07	16:50	Fine	73.9	76.5	68.0		73.9, Measured ≤ Baseline	
29-Jan-07	0:00	Sunny	74.2	78.5	71.0		74.2, Measured ≤ Baseline	

Location NM6 - Government Quarters						
Date	Time	Weather	Unit: dB (A) (30-min)			Remarks
			Measured Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	
2-Jan-07	09:59	Sunny	53.8	55.5	48.0	-
9-Jan-07	10:09	Sunny	57.1	59.0	55.5	
15-Jan-07	11:00	Sunny	63.1	68.0	59.5	
22-Jan-07	17:38	Sunny	56.0	58.0	53.0	
29-Jan-07	11:30	Sunny	66.1	69.0	62.5	

Location NM7 - Garden Vilia								
Date	Time	Weather	Unit: dB (A) (30-min)			Baseline Level	Construction Noise Level	Remarks
			Measured Noise Level					
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>			
2-Jan-07	09:00	Cloudy	67.8	69.0	65.5	59.0	67.2	-
9-Jan-07	09:05	Sunny	68.8	71.0	64.0		68.3	
15-Jan-07	13:10	Sunny	68.7	71.0	62.5		68.2	
22-Jan-07	09:00	Cloudy	67.8	70.5	63.0		67.2	
29-Jan-07	09:00	Sunny	68.7	70.5	65.0		68.2	

# Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

\*Bolted value indicated limit level exceedance

## Appendix G - Noise Monitoring Results

### Restricted Hours - 19:00 to 23:00 on normal weekdays

Location NM5 - Villa Carlton										
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level	Remarks
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>		
2-Jan-07	20:20	Cloudy	70.8	74.5	68.5	70.8	75.8	70.8, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.	
	20:25		70.9	75.0	68.5					
	20:30		70.8	74.5	69.0					
9-Jan-07	20:15	Cloudy	71.0	74.5	68.0	70.9				
	20:20		70.7	74.0	68.5					
	20:25		70.9	74.0	68.5					
15-Jan-07	20:10	Cloudy	70.7	74.0	67.5	70.8				
	23:15		70.9	74.5	68.0					
	20:20		70.9	74.5	68.0					
22-Jan-07	20:05	Cloudy	70.1	73.5	67.5	70.2				
	20:10		70.3	73.0	68.0					
	20:15		70.1	73.0	68.0					
29-Jan-07	20:05	Cloudy	70.1	73.5	67.0	70.1				
	20:10		70.3	73.5	67.5					
	20:15		70.0	73.0	67.5					

Location NM6 - Government Quarters										
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level	Remarks
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>		
2-Jan-07	19:35	Cloudy	54.8	58.0	50.5	54.8	56.1	54.8, Measured ≤ Baseline	-	
	19:40		55.0	57.5	50.5					
	19:45		54.7	57.8	51.0					
9-Jan-07	19:35	Cloudy	55.0	57.5	50.5	55.0				
	19:40		54.9	57.5	50.5					
	19:45		55.1	57.0	51.0					
15-Jan-07	19:35	Cloudy	55.0	57.5	51.0	54.8				
	19:40		54.8	57.0	50.5					
	19:45		54.7	57.0	50.5					
22-Jan-07	19:30	Cloudy	51.0	53.0	49.5	51.0				
	19:35		51.2	53.5	49.0					
	19:40		50.9	53.0	49.5					
29-Jan-07	19:35	Cloudy	51.3	53.0	49.0	51.2				
	19:40		51.0	52.5	48.5					
	19:45		51.3	53.0	49.0					

Location NM7 - Garden Villa										
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level	Remarks
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>		
2-Jan-07	19:00	Cloudy	58.3	60.0	54.0	58.3	58.3	58.3, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.	
	19:05		58.2	60.0	54.0					
	19:10		58.3	59.5	53.5					
9-Jan-07	19:05	Cloudy	58.3	61.0	54.0	58.2				
	19:10		58.3	62.0	53.0					
	19:15		57.9	61.0	53.5					
15-Jan-07	19:10	Cloudy	58.7	62.0	54.5	58.5				
	19:15		58.4	61.5	54.5					
	19:20		58.3	61.5	54.0					
22-Jan-07	19:00	Cloudy	57.3	61.0	53.5	57.1				
	19:05		57.0	61.0	53.0					
	19:10		57.0	61.0	53.0					
29-Jan-07	19:00	Cloudy	58.3	59.5	56.5	58.3				
	19:05		58.4	59.5	57.0					
	19:10		58.2	59.5	57.0					

# Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

\*Bolted value indicated limit level exceedance

## Appendix G - Noise Monitoring Results

### Restricted Hours - 23:00 to 07:00 on normal weekdays

Location NM5 - Villa Carlton										
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level	Remarks
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>		
2-Jan-07	23:00	Cloudy	70.0	73.5	68.0	69.7	74.3	69.7, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.	
	23:05		70.1	73.5	68.5					
	23:10		68.9	73.0	68.0					
9-Jan-07	23:00	Cloudy	70.2	73.5	67.5	70.1				
	23:05		70.0	74.0	68.0					
	23:10		70.0	73.5	68.0					
15-Jan-07	23:00	Cloudy	70.3	73.5	67.5	70.3				
	23:05		70.1	73.0	68.0					
	23:10		70.4	73.5	68.0					
22-Jan-07	23:00	Cloudy	70.1	73.5	68.0	70.2				
	23:05		70.2	73.5	68.5					
	23:10		70.2	74.0	68.5					
29-Jan-07	23:00	Cloudy	70.1	73.5	68.0	70.0				
	23:05		69.8	73.5	68.0					
	23:10		70.0	73.0	67.5					

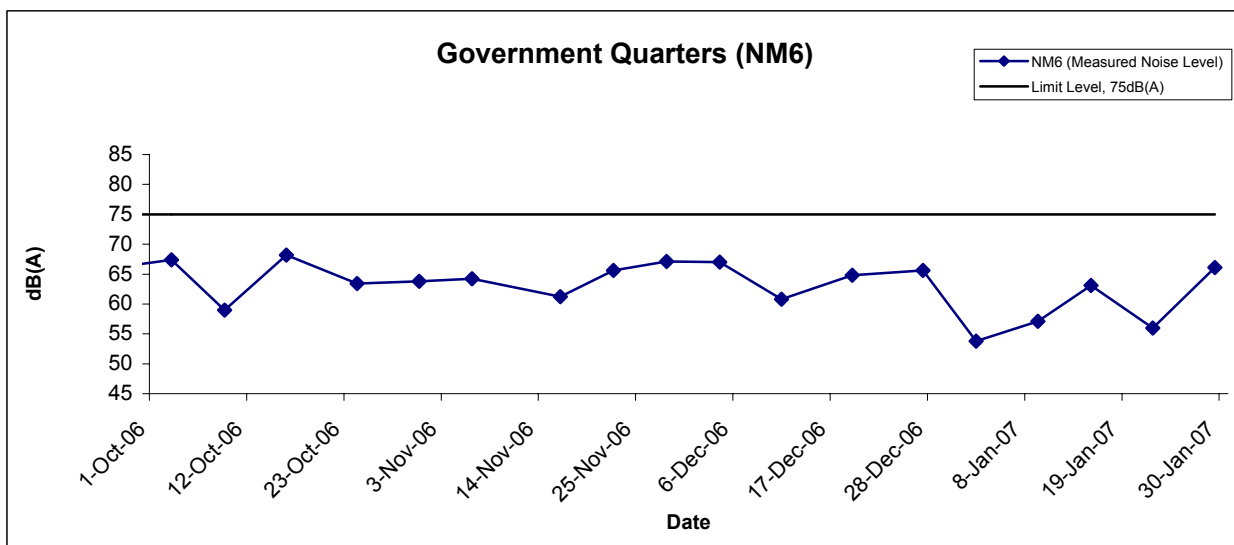
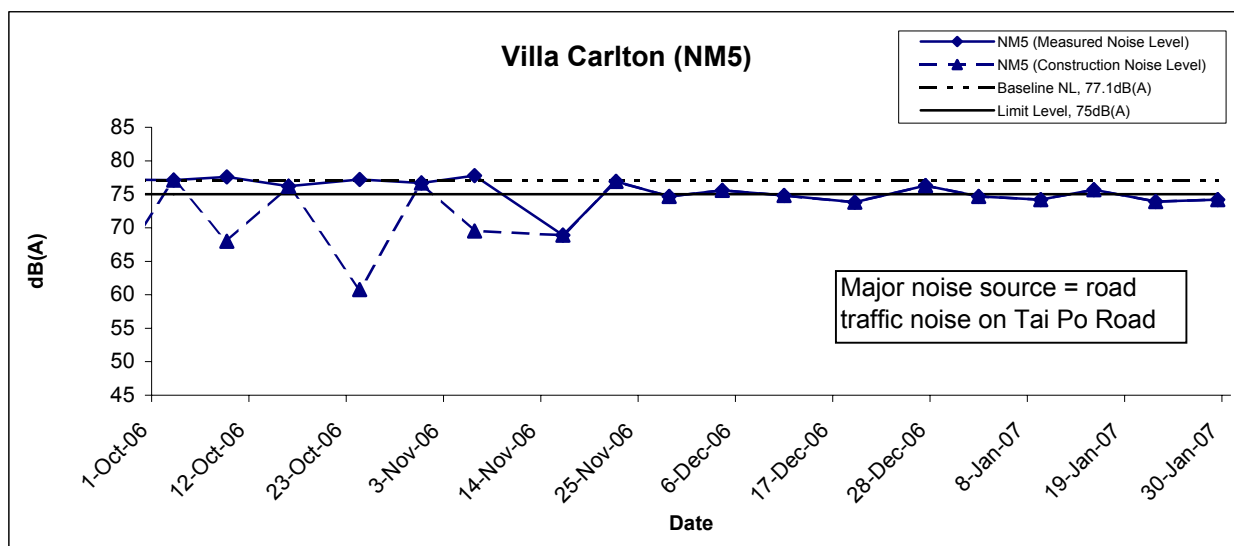
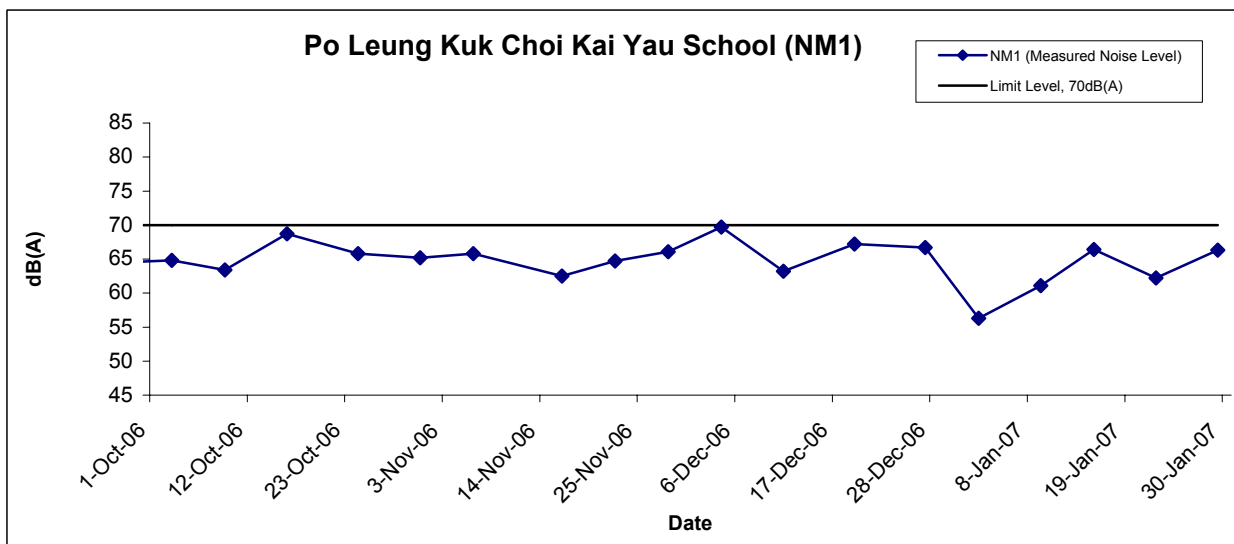
Location NM6 - Government Quarters										
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level	Remarks
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>		
2-Jan-07	23:25	Cloudy	51.6	53.0	48.0	51.6	52.8	51.6, Measured ≤ Baseline	The noise monitoring results are well within the range of Baseline Monitoring Level and there is no evidence showing that the dominant noise was generated from the construction activities.	
	23:30		51.7	53.5	48.0					
	23:35		51.4	52.5	48.5					
9-Jan-07	23:25	Cloudy	51.5	53.0	49.0	51.6				
	23:30		51.7	53.5	49.5					
	23:35		51.7	53.5	49.0					
15-Jan-07	23:25	Cloudy	50.9	53.0	49.0	51.0				
	23:30		51.0	53.5	49.5					
	23:35		51.2	53.0	49.5					
22-Jan-07	23:25	Cloudy	51.0	53.0	49.0	50.9				
	23:30		50.8	53.5	49.5					
	23:35		51.0	53.5	49.5					
29-Jan-07	23:25	Cloudy	51.3	53.0	49.0	51.4				
	23:30		51.4	53.5	49.5					
	23:35		51.4	53.5	49.5					

Location NM7 - Garden Villa										
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level	Remarks
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>		
2-Jan-07	23:50	Cloudy	54.2	58.0	50.5	54.0	56.5	56.5, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.	
	23:55		54.0	58.0	51.0					
	00:00		53.9	58.0	50.5					
9-Jan-07	23:50	Cloudy	54.2	58.5	50.5	54.1				
	23:55		54.0	58.0	51.0					
	00:00		54.1	58.5	51.0					
15-Jan-07	23:50	Cloudy	54.3	58.0	50.5	54.1				
	23:55		54.0	58.0	51.0					
	00:00		54.1	58.0	51.0					
22-Jan-07	23:50	Cloudy	55.9	61.0	53.5	55.5				
	23:55		55.3	62.0	54.0					
	00:00		55.2	61.5	53.5					
29-Jan-07	23:50	Cloudy	54.1	57.0	50.0	54.2				
	23:55		54.3	57.5	50.5					
	00:00		54.3	57.5	50.5					

# Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

\*Bolted value indicated limit level exceedance

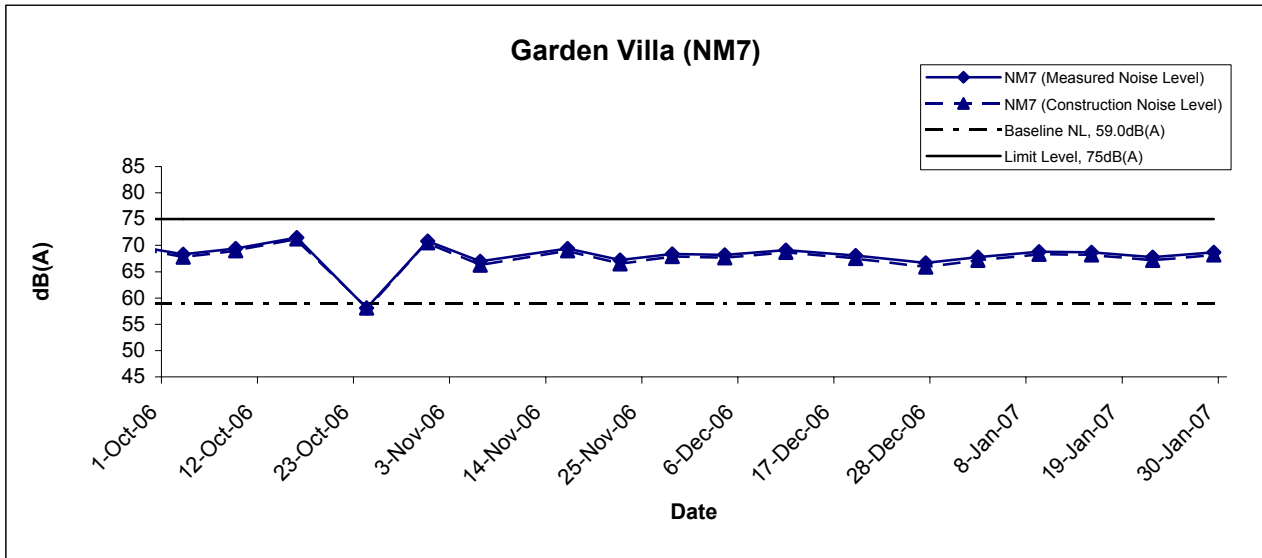
### Noise Levels



\* Construction Noise Level = Measured Noise Level - Baseline Level  
 (If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date Jan 07	Appendix G	

## Noise Levels

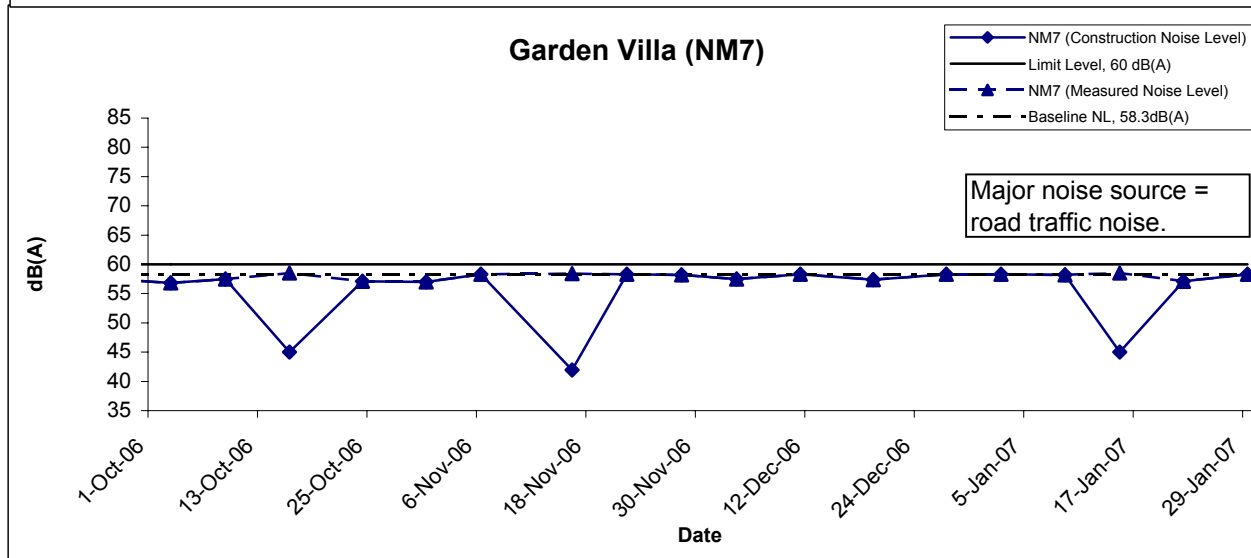
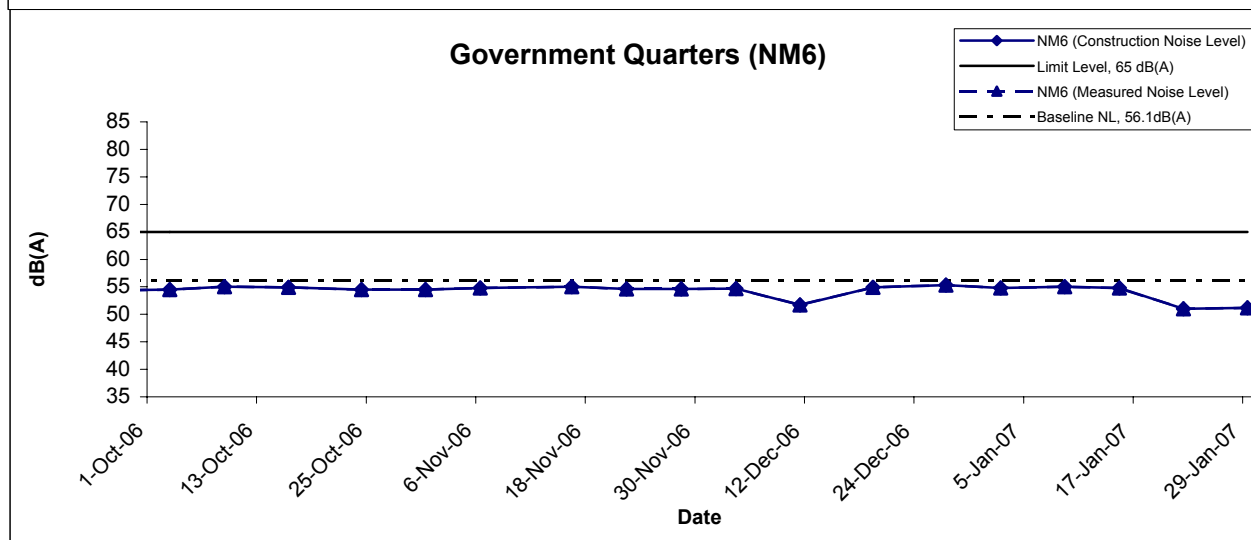
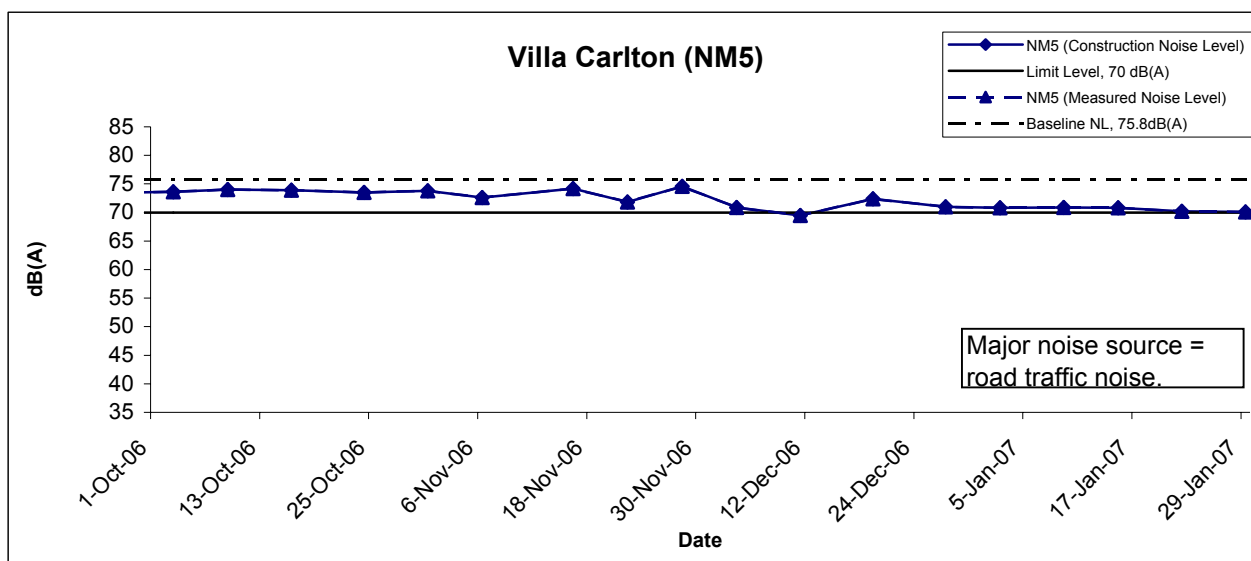


\* Construction Noise Level = Measured Noise Level - Baseline Level  
 (If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date Jan 07	Appendix G	



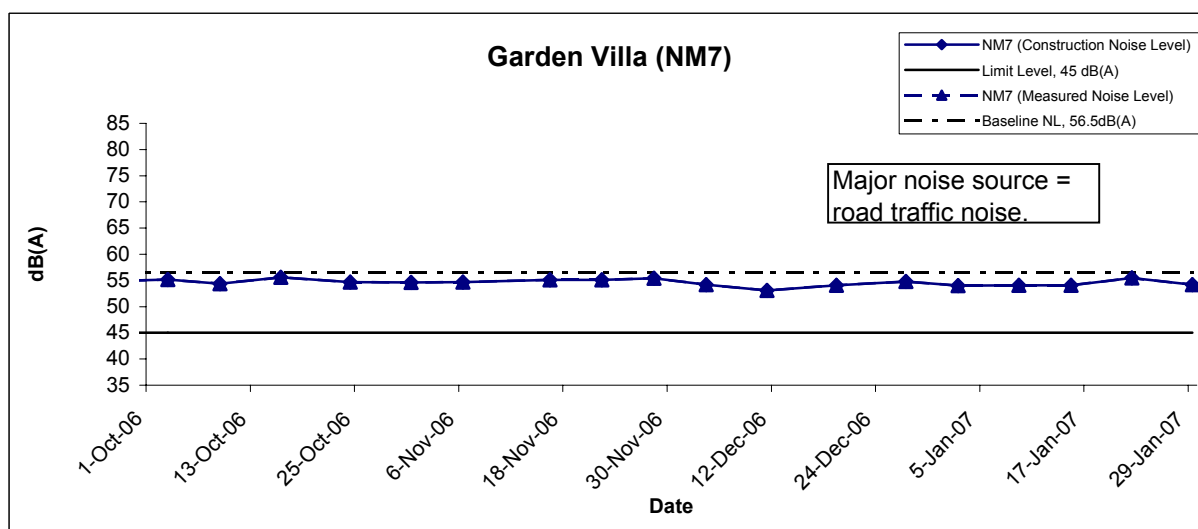
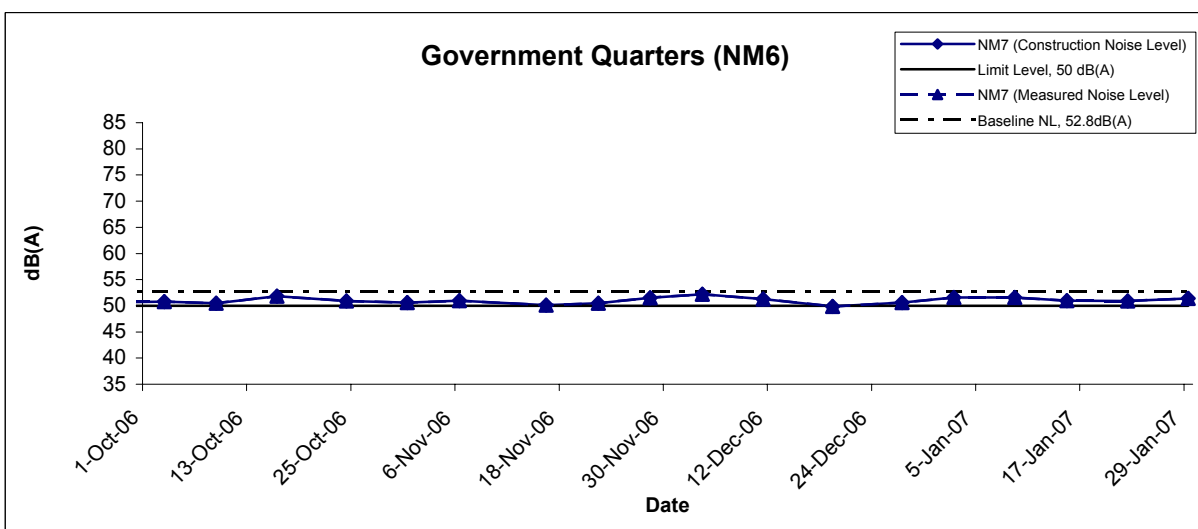
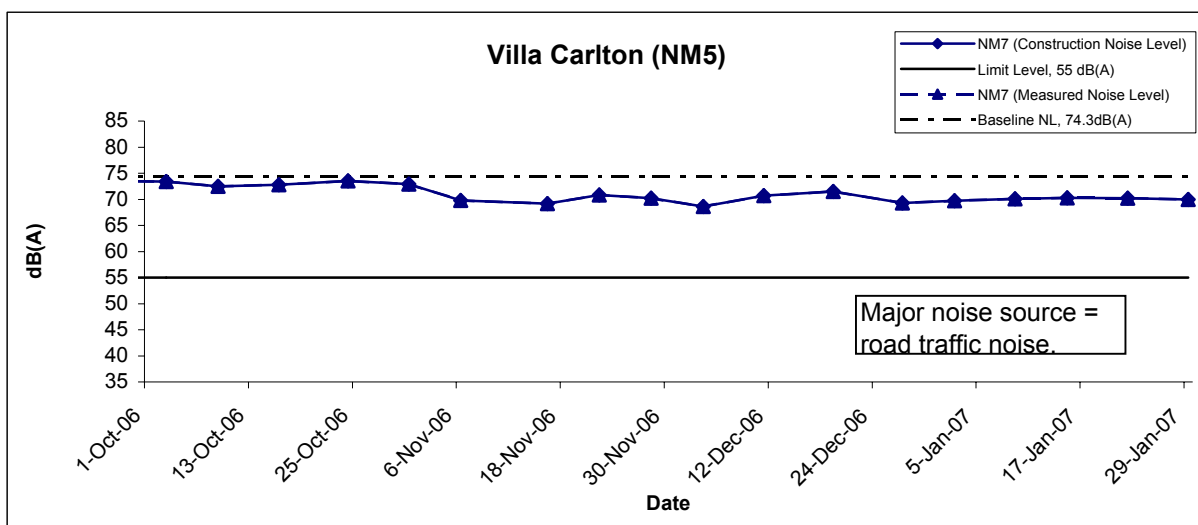
## Restricted Hours (19:00 to 23:00) - Noise Levels



\* Construction Noise Level = Measured Noise Level - Baseline Level  
 (If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA3024	CINOTECH
	Date Jan 07	Appendix G	

## Restricted Hours (23:00 to 07:00) - Noise Levels



\* Construction Noise Level = Measured Noise Level - Baseline Level  
 (If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA3024	CINOTECH
	Date Jan 07	Appendix G	

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**APPENDIX H**  
**SUMMARY OF EXCEEDANCE**

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### **Summary of Exceedances Recorded in the Reporting Month**

**a) Exceedance Report for 1-hr TSP: (NIL)**

**b) Exceedance Report for 24-hr TSP: (NIL)**

**c) Exceedance Report for Construction Noise: (NIL)**

- No Action/Limit Level exceedance was recorded in the reporting month.

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**APPENDIX I  
SITE AUDIT SUMMARY**

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**Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
Contract No. HY/2003/02 – Eagle's Nest Tunnel and Associated Works**

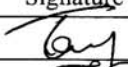
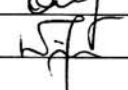
**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70104-ENT
Date	4 January 2007 (Thu)
Time	14:00 – 17:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
70104E-02R	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>Standing water was observed on the ground floor of ENT North Portal Building. It should be cleaned up to avoid mosquito breeding.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	B14
70104E-01O	<p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>Some general refuse was accumulated inside the U-channel at portion D4. The contractor was reminded to clean it up.</li> </ul>	E1i & iii
70104E-03R	<ul style="list-style-type: none"> <li>Some general refuse was scattered on bare ground at culvert A. It should be cleaned up and disposal of on suitable area.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit (Ref. No.: 61227-ENT), no environmental deficiency was identified during the site inspection.</li> <li>Spot checking for dump truck (loaded) was carried out during site inspection for duration of 15 minutes. There was no dump truck with loads without proper cover leaving the construction site was observed.</li> </ul>	E1iii

	Name	Signature	Date
Recorded by	Tommy Ho		5 January 2007
Checked by	Dr. Priscilla Choy		5 January 2007

**Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/02 – Eagle's Nest Tunnel and Associated Works**



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70110-ENT
Date	10 January 2007 (Wed)
Time	9:15 – 11:30 a.m.

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit (Ref. No.: 70104-ENT), all environmental deficiencies were rectified by the Contractor.</li> <li>Spot checking for dump truck (loaded) was carried out during site inspection for duration of 15 minutes. There was no dump truck with loads without proper cover leaving the construction site was observed.</li> </ul>	

	Name	Signature	Date
Recorded by	Mr. Ray Yan		10 January 2007
Checked by	Dr. Priscilla Choy		10 January 2007

**Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/02 – Eagle's Nest Tunnel and Associated Works**

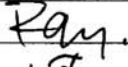

**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70117-ENT
Date	17 January 2007 (Wed)
Time	9:30 – 12:00 noon

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
70117E-01R	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>Step Channel at Mui Kong Tsuen needed desiltation for the silt deposited at the base of Channel. The Contractor was reminded to remove silt after rainstorm.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit (Ref. No.: 70110-ENT), no environmental deficiency was identified during the site inspection.</li> <li>Spot checking for dump truck (loaded) was carried out during site inspection for duration of 15 minutes. There was no dump truck with loads without proper cover leaving the construction site was observed.</li> </ul>	B9

	Name	Signature	Date
Recorded by	Ray Yan		18 January 2007
Checked by	Dr. Priscilla Choy		18 January 2007



**Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/02 – Eagle's Nest Tunnel and Associated Works**

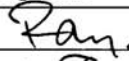

**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70124-ENT
Date	24 January 2007 (Wed)
Time	9:30 – 11:30 a.m.

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit (Ref. No.: 70117-ENT), all environmental deficiencies were rectified by the Contractor.</li> <li>Spot checking for dump truck (loaded) was carried out during site inspection. No dump truck leaving the construction site was observed.</li> </ul>	

	Name	Signature	Date
Recorded by	Ray Yan		24 January 2007
Checked by	Dr. Priscilla Choy		24 January 2007

**Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/02 – Eagle's Nest Tunnel and Associated Works**



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70131-ENT
Date	31 January 2007 (Wed)
Time	14:00 – 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit (Ref. No.: 70124-ENT), no environmental deficiency was observed during site inspection.</li> <li>Spot checking for dump truck (loaded) was carried out during site inspection. No dump truck leaving the construction site was observed.</li> </ul>	

	Name	Signature	Date
Recorded by	Edmond Wu		31 January 2007
Checked by	Dr. Priscilla Choy		31 January 2007

**Route 8 - Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel**  
**Contract No. HY/2003/05 – Traffic Control and Surveillance System**

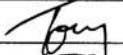

**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70104-ENT-TCSS
Date	4 January 2007 (Thu)
Time	14:00 – 17:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up for previous audit session (Ref. No.: 61227-ENT-TCSS), no environmental deficiency was identified during the site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Tommy Ho		5 January 2007
Checked by	Dr. Priscilla Choy		5 January 2007

**Route 8 - Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel**  
**Contract No. HY/2003/05 – Traffic Control and Surveillance System**

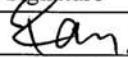

**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70110-ENT-TCSS
Date	10 January 2007 (Wed)
Time	10:30 – 10:50 a.m.

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up for previous audit session (Ref. No.: 70110-ENT-TCSS), no environmental deficiency was identified during the site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Mr. Ray Yan		10 January 2007
Checked by	Dr. Priscilla Choy		10 January 2007

**Route 8 - Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel**  
**Contract No. HY/2003/05 – Traffic Control and Surveillance System**

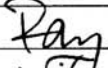

**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70117-ENT-TCSS
Date	17 January 2007 (Wed)
Time	10:35 – 11:10 a.m.

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up for previous audit session (Ref. No.: 70110-ENT-TCSS), no environmental deficiency was identified during the site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Ray Yan		18 January 2007
Checked by	Dr. Priscilla Choy		18 January 2007

**Route 8 - Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel**  
**Contract No. HY/2003/05 – Traffic Control and Surveillance System**

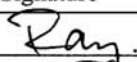
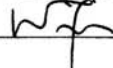
**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70124-ENT-TCSS
Date	24 January 2007 (Wed)
Time	10:30 – 11:15 a.m.

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up for previous audit session (Ref. No.: 70117-ENT-TCSS), no environmental deficiency was identified during the site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Ray Yan		24 January 2007
Checked by	Dr. Priscilla Choy		24 January 2007

**Route 8 - Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel**  
**Contract No. HY/2003/05 – Traffic Control and Surveillance System**

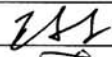
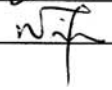
**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	70131-ENT-TCSS
Date	31 January 2007 (Wed)
Time	14:00-14:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up for previous audit session (Ref. No.: 70124-ENT-TCSS), no environmental deficiency was identified during the site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Edmond Wu		31 January 2007
Checked by	Dr. Priscilla Choy		31 January 2007

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**APPENDIX J**  
**EVENT ACTION PLANS**

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## Appendix J - Event Action Plans

### Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	Contractor
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC</li> <li>3. Repeat measurement to confirm finding</li> <li>4. Increase monitoring frequency to daily</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Check Contractor's working methods</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> <li>2. Check monitoring data and Contractor's working methods</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice</li> <li>2. Amend working methods if appropriate</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Discuss with ER &amp; for remedial actions required</li> <li>6. If exceedance continues, arrange meeting with ER &amp; IEC</li> <li>7. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Checking monitoring data submitted by ET</li> <li>2. Check Contractor's working methods</li> <li>3. Discuss with ET and Contractor on possible remedial measure</li> <li>4. Advise the ER &amp; ET on the effectiveness of the proposed remedial measures</li> <li>5. Supervise the implementation of the remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Check Contractor's working methods</li> <li>4. Discuss with ET, IEC and Contractor on proposed remedial actions</li> <li>5. Ensure remedial actions properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to ER within 3 working days of notification</li> <li>2. Implement the agreed proposals</li> <li>3. Amend proposal if appropriate</li> </ol>
<b>LIMIT LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC and EPD</li> <li>3. Repeat measurement to confirm finding</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Assess effectiveness of Contractor's</li> </ol>	<ol style="list-style-type: none"> <li>1. Checking monitoring data submitted by ET</li> <li>2. Check Contractor's working methods</li> <li>3. Discuss with ET and Contractor on possible remedial measure</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Check Contractor's working methods</li> <li>4. Discuss with ET, IEC and Contractor on</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposals for remedial actions to ER within 3 working days of notification</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	Contractor
	remedial actions and keep EPD and ER & IEC informed of the results	4. Advise the ER & ET on the effectiveness of the proposed remedial measures 5. Supervise the implementation of the remedial measures	proposed remedial actions 5. Ensure remedial actions properly implemented	3. Implement the agreed proposals 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source 2. Inform ER, IEC, Contractor and EPD the cause & actions taken for the exceedances 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Investigate the causes of exceedance 6. Carry out analysis of contractor's working procedures to determine possible mitigation to be implemented. 7. Arrange meeting with EPD, IEC and ER to discuss the remedial actions to be taken 8. Assess effectiveness of Contractor's remedial actions and keep EPD and ER & IEC informed of the results 9. If exceedance stops, cease additional monitoring	1. Checking monitoring data submitted by ET 2. Discuss amongst ER, ET and Contractor on possible remedial measures 3. Review Contractor's remedial measures whenever necessary to ensure their effectiveness and advise the ER accordingly 4. Supervise the implementation of the remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 4. Discuss amongst ET, IEC and the Contractor on proposed remedial actions 5. In consultation with IEC, agree with the contractor remedial measures to be implemented 6. Ensure remedial measure are properly implemented 7. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC, ER within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Event/Action Plan for Construction Noise

Exceedance	ACTION			
	ET	IEC	ER	Contractor
Action Level	<p>1. Discuss with the IEC and ER and seek to identify potential noise source</p> <p>2. Undertake noise measurement to confirm the validity of complaint</p> <p>3. Inform ER&amp;IEC in writing Discuss remedial actions required with ER&amp;IEC if an exceedance is recorded</p> <p>4. Increase monitoring frequency to demonstrate efficacy of remedial measures</p> <p>5. If exceedance continues, meet with ER&amp;IEC to review implementation of appropriate mitigation measures.</p> <p>6. If exceedance stops, cease additional monitoring</p>	<p>1. Review the analyzed results submitted by the ET</p> <p>2. Review the proposed remedial measures by the Contractor and advise the ER &amp; ET accordingly</p> <p>3. Supervise the implementation of remedial measures</p>	<p>1. Confirm receipt of notification of complaint and notify Contractor immediately</p> <p>2. Check monitoring data trends and Contractor's working methods</p> <p>3. Remind the Contractor of his contractual obligations and discuss with ET, IEC and Contractor on proposed remedial actions</p> <p>4. Assess the efficacy of remedial actions and keep the Contractor informed</p> <p>5. Inform complainant of actions taken</p>	<p>1. Submit proposals for remedial actions to ER within three working days of notification</p> <p>2. Amend proposals if required by the Engineer</p> <p>3. Implement the remedial actions immediately upon instruction</p> <p>4. Liaise with the ER to optimize the effectiveness of the agreed mitigation</p> <p>5. Amend proposal if appropriate</p>

Exceedance	ACTION			
	ET	IEC	ER	Contractor
Limit Level	<ol style="list-style-type: none"> <li>1. Repeat measurement to confirm findings</li> <li>2. Investigate the cause of the exceedance and identify the main source(s) of impact</li> <li>3. Inform ER&amp;IEC and EPD in writing</li> <li>4. Discuss remedial actions required with ER&amp;IEC</li> <li>5. Increase monitoring frequency to demonstrate efficacy of remedial measures</li> <li>6. Assess efficacy of remedial actions and keep ER &amp; IEC informed of the results</li> <li>7. If exceedance continues, meet with ER&amp;IEC to identify appropriate mitigation measures</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Review Contractor's remedial actions to assure their effectiveness and advise the ER &amp;ET accordingly</li> <li>3. Supervise the implementation of the remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance and notify Contractor</li> <li>2. Check monitoring data trends and Contractor's working methods</li> <li>3. Discuss with ET, IEC and Contractor on proposed remedial actions to be implemented</li> <li>4. Assess the efficacy of remedial actions and keep the Contractor informed</li> <li>5. If exceedance continuous, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is aborted</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposals for remedial actions to ER immediately not more than 3 working days of notification</li> <li>3. Amend proposals if required by the ER</li> <li>4. Implement remedial actions immediately upon instruction</li> <li>5. Liaise with the ER to optimize the effectiveness of the agreed mitigation</li> <li>6. Resubmit proposals if problem still not under control</li> <li>7. Stop the relevant portion of works as determined by the ER until the exceedance is aborted</li> </ol>

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**APPENDIX K  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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## Appendix K - Summary of Environmental Mitigation Implementation Schedule

Types of Impacts	Mitigation Measures	Status
<b>Construction Dust</b>	<ul style="list-style-type: none"> <li>• Any stockpile of dusty materials or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet.</li> <li>• A stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• Vehicle washing facilities should be provided at every exit point.</li> <li>• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.</li> <li>• Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.</li> <li>• Every main haul road should be sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet.</li> <li>• The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials.</li> <li>• Any stockpile of dusty materials should be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.</li> <li>• All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.</li> <li>• Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site.</li> <li>• The working area of any excavation should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet.</li> </ul>	^ ^ ^ ^ ^ ^ ^ ^ ^ ^
<b>Construction Noise</b>	<ul style="list-style-type: none"> <li>• Only well-maintained plant should be operated on –site and plant should be serviced regularly during the construction works.</li> <li>• Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> <li>• Plant known to emit noise strongly in one direction, should where possible, be orientated to direct noise away from the NSRS.</li> <li>• Mobile plant should be sited as far away from NSRs as possible.</li> <li>• Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> <li>• Use quiet plant and Working Method</li> <li>• Reduce the number of plant operating in critical areas close NSRs.</li> </ul>	^ ^ ^ ^ ^ ^ ^

Types of Impacts	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>Construct temporary and movable noise barriers</li> </ul>	^
Water Quality	<i>Construction Runoff and Drainage</i>	
	<ul style="list-style-type: none"> <li>Use of sediment traps and the adequate maintenance of drainage systems to prevent flooding and overflow.</li> <li>Boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilities runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates.</li> <li>All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment traps should be regularly cleaned and maintained. The temporarily diverted drainage should be reinstated to its original condition when the construction works has finished or the temporary diversion is no longer required</li> <li>Sand silt in the wash water from the wheel washing facilities, which ensure no earth, mud and debris is deposited on roads, should be settled out the removed before discharging into storm drains. A section of the road between the wheel washing bay and the public road should be paved with backfill to prevent wash water or other site runoff form entering public road drains.</li> <li>Oil interceptors should be provided in the drainage system and regularly emptied to prevent the release of oils and grease into the storm water drainage system after accidental spillage. The interceptor should have a bypass to prevent flushing during periods of heavy rain.</li> <li>Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.</li> <li>Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed at least once a week, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.</li> <li>Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided along the site boundary or at the locations agreed with the ET Leader. Rainwater pumped out from trenches or foundation excavations shall be discharged into silt removal facilities before discharge into storm drains.</li> <li>All generators, fuel and oil storage shall be within bunded areas. Drainage from the areas shall be connected to storm drains via a petrol interceptor.</li> </ul>	^ ^ ^ ^ ^ ^ ^ ^
	<i>Tunnelling Work</i>	
	<ul style="list-style-type: none"> <li>Temporary open storage of excavated materials should be covered with tarpaulin or similar fabric during rainstorms. Any washout of construction or excavated materials form the drill and blast tunnelling work should be diverted to the drainage system via appropriate sediment traps.</li> <li>Ground water pumped out of tunnels should be discharged into the drainage channels which incorporated sediment traps to enhance deposition rates and to remove silt.</li> </ul>	^ ^

Types of Impacts	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>Spent grouts used in diaphragm wall construction should be collected in a separate slurry collection system, reconditioned and reused wherever practicable. The disposal of used grouting materials will only be permitted if it is treated to the TM standards before discharge to the storm drains or disposal to landfill.</li> </ul>	N/A
	<i>General Construction Activities</i>	
	<ul style="list-style-type: none"> <li>Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column and cause water quality impacts.</li> <li>All fuel tanks and storage areas will be provided with locks and be located on sealed areas (within bunds of a capacity equal to 110% of the storage capacity of the largest tank or 20% by volume of the fuel stored in that areas, whichever in the greatest).</li> </ul>	^ ^
	<i>Sewage Effluent</i>	
Waste	<ul style="list-style-type: none"> <li>Construction work force sewage discharges from fixed toilet facilities on-site should be connected to the nearby existing trunk sewer wherever feasible. However, for areas where existing trunk sewer is not available, it is recommended that appropriate and adequate on site portable chemical toilets should be provided by a licensed contractor who will be responsible for appropriate disposal and maintenance of these facilities.</li> <li>It is considered that sewage discharges could also be treated by on-site septic tanks and soakaway. Minimum clearance away from streams and catchments and other requirements for the proposed septic tank and soakaway should be referred to EPD's Practice Note for Professional Persons, Drainage Plans.</li> </ul>	^ N/A
	<i>General</i>	
	<ul style="list-style-type: none"> <li>Training and instruction shall be given at a site to construction staff to increase awareness and draw attention to waste management issues and the need to minimise waste generation. The training requirement shall be included in the site waste management plan.</li> </ul>	^
<i>Storage, Collection and Transportation of Waste</i>		
	<ul style="list-style-type: none"> <li>Wastes shall be handled and stored in a manner to ensure that they are held securely without loss or leakage.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Authorised or licensed waste hauliers shall be used and they shall only collect wastes prescribed by their permits.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Waste shall be removed on a daily basis.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Waste storage area shall be maintained and cleaned on a daily basis.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Windblown litter and dust during transportation shall be minimised by either covering trucks or transporting wastes in enclosed containers.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Obtain necessary waste disposal permits from the appropriate authorities if they are required.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Wastes shall be disposed of at licensed waste disposal facilities.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Develop procedure such as ticketing system to facilitate tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur.</li> </ul>	^
<ul style="list-style-type: none"> <li>Maintain records of the quantities of wastes generated, recycled and disposed.</li> </ul>	^	





Types of Impacts	Mitigation Measures	Status
	<p><i>General Refuse</i></p> <ul style="list-style-type: none"> <li>General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&amp;D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&amp;D and chemical wastes, on a daily for every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.</li> <li>Reusable rather than disposable dishware shall be used if feasible.</li> </ul>	<p>^</p> <p>^</p>
<p><b>Ecology</b></p>	<ul style="list-style-type: none"> <li>A sediment barrier shall be erected to minimize stream sedimentation at downstream of the project boundary of the Toll Plaza.</li> <li>Conduct a tree survey before commencement of the construction work.</li> <li>All measures recommended in the approved landscape proposals under Condition 2.4 in EP above shall be fully implemented in accordance with the details and time schedule set out in the submission.</li> <li>Loss of the adjacent woodland due to temporary land take shall be returned to the original status immediately.</li> <li>Wild and uncontrolled fire shall be strictly prohibited</li> <li>Fences shall be erected along the boundary of the construction sites at the Toll Plaza before commencement of works, to prevent tipping, vehicle movements, and encroachment of personnel onto adjacent wooded areas.</li> </ul>	<p>N/A</p> <p>^</p> <p>N/A</p> <p>N/A</p> <p>^</p> <p>N/A</p>
<p><b>Landscape and Visual Impact</b></p>	<ul style="list-style-type: none"> <li>Landscape mitigation measure 1 (LMM1) – Construction programming and management. The periphery of the works areas at street level shall be managed so that they do not appear cluttered, untidy and unattractive and inconvenient to pedestrians. For example, all hoarding shall be colorfully designed with interesting motifs demonstrating the work of Highways Department. Hoardings with bland colours shall be avoided.</li> <li>Landscape mitigation measure 2 (LMM2) – Advanced planting and erosion control works. Where possible, the transplantation of existing valuable trees, the stockpiling of topsoil, new planting and erosion control works shall be carried out as early as possible in the construction period instead of at the end. This will assist in maximizing the time for carrying out transplantation and new planting, resulting in a higher success rate for the survival of transplantation and new planting, resulting in a higher success rate for the survival of transplanted trees and the establishment of new screen trees. The stockpiling of topsoil will provide an abundant use of on-site material for growing media. During detailed design, the issue of stockpiling of topsoil in a manner that would avoid washing into the drainage scheme should be examined comprehensively.</li> <li>Measurement of vibration would also be carried out on a need basis during the piling work</li> </ul>	<p>^</p> <p>^</p> <p>^</p>

Remarks:

- |     |                                   |   |  |
|-----|-----------------------------------|---|--|
| ^   | Compliance of mitigation measure; | X | Non-compliance of mitigation measure;          |
| N/A | Not Applicable;                   | • | Non-compliance but rectified by the contractor |

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**APPENDIX L**  
**CONSTRUCTION PROGRAMME**

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Data Date 20JAN07  
Run Date 29JAN07 15:38

### 3 MONTH ROLLING PROGRAMME

Monthly Update  
 Detailed Works Progr.(DWP) r  
 Progress Bar  
 Critical Activity

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	Gantt Chart							
										NOV 38	DEC 39	JAN 40	FEB 41	MAR 42	APR 43	MAY 44	
<b>GENERAL</b>																	
<b>Submittals &amp; Approvals</b>																	
<b>Drawing Submittal &amp; Approval</b>																	
8034	Prep. & Sub. Independ't Serv. Dwgs for SHT&T3&LCK	48	04AUG04A	02FEB07	98	98	12	215	-215								
8024	Engineer Comment / Approve ENT ISD Submissions	18	06AUG04A	29JAN07	85	85	8	-111	-215								
8030	Res-sub. & Approv of ENT ISD	24	06SEP04A	02FEB07	70	70	12	-111	-215								
8035	Engineer Comment / Approve SHT&T3LCK ISD Sub.	24	13SEP04A	06MAR07	85	85	36	215	-215								
8032	Engineer Comment / Approve SHT&T3&LCK CSD Sub.	18	25OCT04A	06FEB07	90	90	15	215	-215								
8036	Re-sub. & Approv of SHT & T3 & LCK ISD	36	31MAR05A	06MAR07	70	70	36	215	-215								
8033	Re-sub. & Approv. of SHT & T3 & LCK CSD	24	28JUN05A	16FEB07	60	60	24	215	-215								
8022	Engineer Comment / Approve ENT CSD Submissions	12	20JAN07	02FEB07	0	0	12	215	-215								
8029	Re-sub. & Approv. of ENT CSD	24	03FEB07	06MAR07	0	0	24	215	-215								
<b>LAI CHI KOK VIADUCT</b>																	
<b>CONTRACT DEFINED DATES, STAGES &amp; SECTIONS</b>																	
<b>PORTION ACCESS &amp; VACATION</b>																	
ACS_M2	Access to Portions - M2	0		24JAN07*	0	0	0	-86	-266								
ACS_M3	Access to Portions - M3	0		24JAN07*	0	0	0	-282	-266								
ACS_M11	Forecast Delay in Access to Portion M1	60	28APR06A	03MAR07	0	0	34	-219	0								
ACS_M12	Forecast Delay in Access to Portion M2	30	28APR06A	24JAN07	0	0	4	-71	0								



**LEIGHTON - KUMUGAI JV**  
**R8 - EAGLES'S NEST TUNNEL**  
**CONTRACTORS TARGET PROGRAMME REV.1**

Proj. Name: W27E  
 Layout: 3 MONTHS ROLLING PROGRAMME  
 Filter: 3 MONTH ROLLING PROGRAMME  
 Current Proj: W27E  
 Target 1 Proj: BE02  
 Sheet 1 of 37

LKJV/ENT/DWP/B			
Date	Revision	Checked	Approved
20JAN07	Prog update Jan 07	GW	RB

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
<b>PORTION ACCESS &amp; VACATION</b>																	
ACS_M13	Forecast Delay in Access to Portion M3	30	28APR06A	24JAN07	0	0	4	-232	0								
<b>Construction Works</b>																	
<b>CMCS Leased Lines at Pump Houses</b>																	
6817	E&M at Lai Po Rd Pump House	6	12FEB07	21FEB07	0	0	6	-70	-214								
6827	E&M at Wai Man Tsuen Pump House	6	12FEB07	21FEB07	0	0	6	-70	-208								
<b>BUTTERFLY VALLEY</b>																	
<b>Contract Key Dates &amp; Milestones</b>																	
<b>Area Access &amp; Vacation Dates</b>																	
ACS_A	Access to Portions - A	0	20OCT03A		100	100	0		-261								
<b>Construction Works</b>																	
<b>BUTTERFLY VALLEY 3RD PARTY WORKS</b>																	
<b>TCSS at Butterfly valley Approach</b>																	
S2462	TCSS Access to Gantry MLS-CAP13 (NB) (15MAY06)	0		22JAN07	0	0	0	-208	-202								
S2602	TCSS Access to Gantry MLS-CAP11 (NB) (15MAY06)	0		22JAN07	0	0	0	-208	-202								
S2622	TCSS Access to Gantry MLS-CAP12 (SB) (11JUN06)	0		22JAN07	0	0	0	-186	-202								
S2402	TCSS Access to Gantry MLS-CAP16 (S.E.) (11JUN06)	0		24JAN07	0	0	0	-188	-83								
S2632	TCSS Access to VMS MLS-CAP14,15 (11JUN06)	0		24JAN07	0	0	0	-188	-203								
<b>Noise Barrier Works by ACCIONA</b>																	
S2562	Access for 7m N.B. Works by Acciona at BV South	77	23JUN06A	16MAR07	30	0	45	206	-149								
S2612	Access for S-Enclosure Works (Primary Elements)	90	08JUL06A	19MAY07	0	0	95	-188	-178								
S2662	1Access for 5m N.B. Works by Acciona at BV South	90	27SEP06A	14APR07	0	0	66	185	-125								
<b>BUTTERFLY VALLEY E&amp;M WORKS</b>																	
<b>Noise Enclosure 6 at South Portal Area</b>																	
8372	LckVd NE6 - Elect Works 1st Fix	30	20JAN07*	01JUN07	0	0	30	-179	-168								
8382	LckVd NE6 - Elect Works 2nd Fix	24	03FEB07	08JUN07	0	0	24	-179	-168								
8392	LckVd NE6 - Elect Cabling ENT SPB to N.E.	9	28FEB07	15JUN07	0	0	9	-179	-168								
8402	LckVd NE6 - Elect Works Fin Fix	12	28FEB07	15JUN07	0	0	12	-179	-168								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
<b>Butterfly Valley Miscellaneous E&amp;M Works</b>																	
8440	Butterfly Valley - Elect Works 1st Fix	42	27JAN07	20MAR07	0	0	42	-87	-121								
8430	Butterfly Valley - Elect Works 2nd Fix	36	10FEB07	27MAR07	0	0	36	-87	-121								
8410	Butterfly valley - Elect Works Fin Fix	24	07MAR07	03APR07	0	0	24	-87	-121								
8420	Butterfly Valley - Cabling	24	07MAR07	03APR07	0	0	24	-87	-121								
8400	Butterfly Valley - Ready for Energization	0		04APR07	0	0	0	-87	-121								
<b>MAJOR DRAINAGE DIVERSIONS</b>																	
<b>Filling</b>																	
S2680	Fill on top of Box Culvert 45 & culvert A	9	20JAN07	16FEB07	0	0	9	227	-197								
<b>Box Culvert</b>																	
S2800	Culvert A Structure & connection to Bay 45	18	18NOV06A	18JAN07A	100	0	0		-181								
<b>EARTHWORKS &amp; SLOPEWORKS</b>																	
<b>BV-R1 Remaining Works</b>																	
S2360	BV-R1 - Backfill	48	10MAY06A	03JAN07A	100	0	0		-129								
<b>SLOPE SP-S2 &amp; SP-S3</b>																	
S2370	Remaining Works to Slopes SP-S3 & SP-S2	24	19JUL06A	12FEB07	5	0	20	-64	-193								
<b>SLOPE BV-S2</b>																	
20.500.130.180.035																	
103811	BV-S2 Berm 9 hydro-seeding & tensor mat	12	24OCT06A	06FEB07	90	0	6	-71	-206								
103812	BV-S2 Berm 10 hydro-seeding & tensor mat	12	16FEB07	05MAR07	0	0	12	-79	-214								
<b>SURFACE DRAINAGE</b>																	
103696	BV-S2 Berm 9 Surface drainage	14	01MAR06A	30JAN07	40	30	9	-79	-214								
103697	BV-S2 Berm 10 Surface drainage	14	31JAN07	15FEB07	0	0	14	-79	-214								
<b>SLOPE BV-S4</b>																	
<b>SLOPE FINISHES</b>																	
102380	BV-S4/3a-4a & 5 hydro-seeding & tensarmat	12	12SEP05A	15MAR07	90	70	30	-163	-229								
101139	11nw/434 BV-S4/1-2-3bcd-4b Hydro-seed/Tensarmat	18	13FEB07	08MAR07	0	0	18	-157	-229								
<b>SURFACE DRAINAGE</b>																	
103705	BV-S4/3 Surface Drainage	8	17MAR05A	12FEB07	75	70	20	-163	-229								
103706	BV-S4/4 Surface Drainage	12	07SEP05A	01MAR07	75	5	18	-163	-229								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
<b>SLOPE SP-S1</b>																	
SURFACE DRAINAGE																	
103711	Sp-S1/4 Surface Drainage	7	06JUL04A	12FEB07	55	40	20	-64	-228								
<b>RC STRUCTURES</b>																	
<b>RETAINING WALL BV-R2</b>																	
BACKFILLING																	
101126	BV-R2(C) Granular Drain & Compacted Backfill	6	20JAN07	26JAN07	0	0	6	-63	-211								
<b>ROADWORKS - North End of BV</b>																	
<b>Stormwater Drainage</b>																	
S2430	West Loop Rd. Drainage	20	19JAN06A	02FEB07	40	30	12	-99	-170								
S2420	Outstanding East Loop Rd. Drainage	28	24AUG06A	23JAN07	95	0	3	-103	-200								
<b>Noise Barrier Footings &amp; Sign Gantries</b>																	
S3360	Installation of Sign Gantry on Semi Encl.	4	20JAN07	24JAN07	0	0	4	-188	-83								
<b>Road Pavement &amp; Associated Work</b>																	
S2252	BV North - Bitu Pavement to Sth Bnd Carrig'way	24	29SEP06A	22JAN07	95	0	2	-68	-66								
S2262	BV North - Typ IV Pavement	40	19OCT06A	23FEB07	90	0	4	224	-81								
S2222	BV North - Subbase to Nrth Bound Carriageway	43	11NOV06A	14FEB07	50	0	22	-84	-94								
S2540	BV North - Kerbs & CPB to Nrth Bound Carriageway	36	13NOV06A	01FEB07	70	0	11	-80	-81								
S2242	BV North - Bitu. Pavement to Nrth Bnd Carrig'way	24	20JAN07	24FEB07	0	0	24	-84	-92								
S2920	Road Works to East Loop Rd Typ III (EVA)	13	01FEB07	15FEB07	0	0	13	-67	-189								
S2900	Road Marking & White Lining (Staged for Access)	24	03FEB07	10MAR07	0	0	24	-84	-92								
S3010	Installation of Road Signage (Sign Plates Only)	24	03FEB07	10MAR07	0	0	24	-84	-92								
S2930	Road Works to West Loop Road Typ III (EVA)	13	14MAR07	28MAR07	0	0	13	-99	-170								
S3660	NEW ACTIVITY - Road Pavement Friction Course	12	26FEB07	10MAR07	0	0	12	-84	0								
<b>Miscellaenous Works</b>																	
S2870	Erect HML 1	4	30JAN07	02FEB07	0	0	4	-56	-194								
S3100	Erect HML 2	4	30JAN07	02FEB07	0	0	4	-56	-223								
S3450	Erect HML 3	4	30JAN07	02FEB07	0	0	4	-56	-172								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
<b>Miscellaneous Works</b>																																					
S2670	Install Twin DN200 Pipes to SPB via E. Loop Rd	18	20OCT06A	31JAN07	60	0	7	-103	-189																												
S2590	Installation of DN200 Fire Hydrant Pipe and FH's	24	18NOV06A	22JAN07	95	0	2	-84	-106																												
S2690	Installation of Drip Feed Irrigation System	12	02FEB07	15FEB07	0	0	12	-67	-81																												
S3000	Construct Recreated Stream	30	03FEB07	13MAR07	0	0	30	-99	-170																												
<b>ROADWORKS - South End of BV</b>																																					
<b>Noise Barrier Footings &amp; Sign Gantries</b>																																					
S2461	Sign gantry Installation MLS-CAP12	3	20DEC06A	22JAN07	50	0	2	-186	-202																												
S3380	Sign Gantry Installation MLS-CAP11,13	3	20DEC06A	22JAN07	25	0	2	-208	-202																												
S3370	Signal Gantry Installation MLS-CAP14 & 15	4	20JAN07	24JAN07	0	0	4	-188	-203																												
<b>Ducting &amp; Drawpits</b>																																					
S2740	BV South - LV Ducts & Drawpits	20	01JUN06A	26JAN07	70	0	6	-105	-138																												
<b>Road Pavement &amp; Associated Work</b>																																					
S2960	BV Sth - Kerbs & CPB to Sth Bound Carriageway	30	12AUG06A	29JAN07	95	0	2	-82	-92																												
S2510	BV Sth - Trim Formation & S'base - Nth Bnd	35	14AUG06A	29JAN07	75	0	8	-88	-105																												
S2950	BV Sth - Kerbs & CPB to Nrth Bound Carriageway	30	18SEP06A	05FEB07	70	0	9	-88	-93																												
S2970	BV Sth - Bitu. Pavement to Sth Bnd Carrig'way	20	20SEP06A	12FEB07	90	0	2	-82	-81																												
S2980	BV Sth - Bitu. Pavement to Nrth Bnd Carrig'way	23	06NOV06A	22FEB07	45	0	10	-88	-82																												
S2990	Road Marking & White Lining (Staged Access)	18	23FEB07	15MAR07	0	0	18	-88	-82																												
S3190	Installation of Road Signage (Sign Plates Only)	18	23FEB07	15MAR07	0	0	18	-88	-82																												
S3670	NEW ACTIVITY - Road Pavement Friction Course	12	23FEB07	08MAR07	0	0	12	-82	0																												
<b>Miscellaneous Works</b>																																					
S2790	Installation of DN 200 Fire Hydrant Pipe & FH's	12	19OCT06A	22JAN07	90	0	2	249	-142																												
S2780	Install & Commission Weighbridge	24	23FEB07	22MAR07	0	0	24	-76	-82																												
S2850	Erect HML9	4	23FEB07	27FEB07	0	0	4	-74	-203																												
<b>LKJV Works at Abutment M</b>																																					
S3420	Complete remaining roadworks within Portion B	36	11DEC06A	29JAN07	80	0	8	-52	-131																												



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																							
										38	39	40	41	42	43	44																							
											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14		
<b>DSD MAINTENANCE ROAD</b>																																							
<b>DSD Maintenance Rd DSD1-1 (Acciona Interface)</b>																																							
S3570	WSD Slope Reinstatement	18	10FEB07	06MAR07	0	0	18	-80	-191																														
S2340	ACCIONA - Remove Crane Platform	18	20JAN07	09FEB07	0	0	18	-82	-215																														
S2380	Complete DSD1-1 Surface Drainage & CP's	18	20JAN07*	09FEB07	0	0	18	-82	-101																														
S2460	LKJV Regain Access at Pier 20	0		09FEB07	0	0	0	-82	-215																														
S3140	Complete Sub-base & kerbs at DSD1-1	12	10FEB07	27FEB07	0	0	12	-82	-101																														
S3150	Complete Surfacing at DSD1-1 (Type IV)	8	28FEB07	08MAR07	0	0	8	-82	-101																														
<b>DSD Maintenance Rd DSD1 (Parallel to Channel)</b>																																							
S3210	2 No. Cross Rd Pipes & Roadside Gullies	12	01MAR06A	22JAN07	90	80	2	-105	-213																														
S2830	Twin DN200 Water Pipe	45	02MAY06A	02FEB07	50	1	5	-105	-184																														
S3390	Complete Formation at DSD1	6	02DEC06A	23JAN07	50	0	3	-132	-169																														
S2700	Access rd DSD1 -barrier footings	12	20JAN07	02FEB07	0	0	12	-68	-172																														
S3120	DN 200 Watermain Diversion EB18 - EB70	40	24JAN07	14MAR07	0	0	40	-132	-169																														
S2730	Construct Recreated Stream	45	15MAR07	11MAY07	0	0	45	-132	-150																														
S3220	Subbase & Kerbs	18	15DEC06A	27FEB07	30	0	12	-77	-95																														
S2720	Access rd DSD1 - Barriers	12	03FEB07	16FEB07	0	0	12	-68	-172																														
S3160	REINSTATE BV ACCESS	0		08MAR07	0	0	0	-82	-101																														
S3230	Surfacing (Type IV)	12	10FEB07	02MAR07	0	0	12	-77	-92																														
<b>Terrain Mitigation</b>																																							
<b>NTMM - BV-S2</b>																																							
102350	NTMM - Afforestation of Area	60	22MAR06A	21FEB07	50	5	25	-69	-214																														
<b>Landscaping &amp; Establishment</b>																																							
101476	BV - Soft Landscaping & Planting	100	03JUN06A	19APR07	38	0	30	-43	1																														
101475	BV - Hard Landscaping	90	03JAN07A	17APR07	36	0	24	-137	-163																														
101477	BV - Establishment works	365	20APR07	18APR08	0	0	365	-146	1																														

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
<b>ENT SOUTH PORTAL VENTILATION BUILDING</b>																	
<b>SUBMITTALS &amp; APPROVALS</b>																	
<b>E&amp;M EQPT. &amp; MATERIAL APPROVALS</b>																	
1919	SP.Bldg. - Approve doors details	24	07MAY05A	25JAN07	80	80	5	-138	-211								
<b>PROCUREMENT - MATERIAL</b>																	
<b>ABWF WORKS</b>																	
1979	SP.Bldg. - Procure expanded metal mesh cladding	180	06JUN05A	30JAN07	80	80	9	-132	-215								
2018	SP.Bldg. - Initial deliver fall arrest roof syst	0	20JAN07*		0	0	0	-75	-168								
2019	SP.Bldg. - Initial deliver of slate cladding	0	20JAN07*		0	0	0	-99	-143								
2030	SP.Bldg. - Initial deliver balust & metal works	0	20JAN07*		0	0	0	-75	-168								
2025	SP.Bldg- Initial deliver exp metal mesh cladding	0	03MAR07*		0	0	0	-132	-163								
<b>CONSTRUCTION</b>																	
<b>South Portal Bldg. - CIVIL &amp; ABWF WORKS</b>																	
<b>ABWF WORKS</b>																	
<b>SB Bldg - Internal Works GF</b>																	
T2760	GF - Paint touch up & Doors	12	22NOV06A	27JAN07	70	0	6	-51	-134								
<b>SP Bldg - Internal Works 1F &amp; LP</b>																	
T2770	1F & LP - Paint touch up & Doors	12	11DEC06A	12FEB07	85	0	2	-64	-183								
<b>SP Bldg - Internal Works 2F</b>																	
T2780	2F - Paint touch up & Doors	12	29NOV06A	02FEB07	70	0	4	-56	-98								
<b>SP Bldg - Internal Works 3/F</b>																	
T2800	3F - Paint touch up & Doors	12	06FEB07	22FEB07	0	0	12	-70	-150								
<b>SP Bldg - Internal Works 4F &amp; Above</b>																	
T2790	4F - Paint touch up & Doors	12	03MAR07	16MAR07	0	0	12	-89	-91								
<b>Roof &amp; External Facade</b>																	
T2820	Ent SPB - Ext. Wall Waterproof Render	18	20JUL06A	15JAN07A	100	0	0		-150								
T2710	Ent SPB - Install Aluminum louvres & doors	90	26JUL06A	16MAR07	50	0	45	-138	-109								
T2730	Ent SPB - 25thk Roof Screed & Roofing Tiles	18	18DEC06A	30JAN07	50	0	9	-84	-118								
T2410	Ent SPB - External Wall Painting	34	20DEC06A	16FEB07	30	0	24	-99	-138								
T2400	Ent SPB - Alum. Comp Panel Cladding to Ext Walls	60	20JAN07	03APR07	0	0	60	-123	-117								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV		DEC			JAN			FEB			MAR			APR			MAY															
										38	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14					
Roof & External Facade																																										
T2540	Ent SPB - Slate Cladding above NB/SB Carriageway	36	20JAN07	06MAR07	0	0	36	-99	-143																																	
T2360	Ent SPB - GMS,S/S Channel, Balustrade & Railing	24	21FEB07	20MAR07	0	0	24	-99	-133																																	
T2390	Ent SPB - Expanded metal cladding to Ext Walls	36	03MAR07	18APR07	0	0	36	-132	-163																																	
T2365	Ent SPB - Removed External Scaffolding	12	19APR07	03MAY07	0	0	12	-132	-126																																	
<b>ENT South Portal Bldg. - BUILDING SERVICES</b>																																										
<b>E &amp; M WORKS</b>																																										
ENT South Portal Bldg (G/F) - E & M Works																																										
EM1300	Installation of FS Pumps and Pipework at GF	18	25OCT06A	20JAN07	98	0	1	-51	-176																																	
T2320	Installation of Earth Mat at SP Bldg	30	08NOV06A	22JAN07	98	0	2	-141	-177																																	
ENT South Portal Bldg (1F/Lwr Plen) - E & M Work																																										
EM1310	Installation of Compressor	18	20JAN07	09FEB07	0	0	18	-64	-193																																	
ENT South Portal Bldg (2F/Silencer) - E & M Work																																										
EM1110	BS Works for Genset	18	24JUN06A	20JAN07	98	0	1	-134	-162																																	
EM1140	E&M Works in Corridors 2/F	24	24JUN06A	20JAN07	98	0	1	-165	-144																																	
EM1030	BS Works for HV Sw + Tx	12	12JUL06A	22JAN07	98	0	2	-147	-169																																	
EM1120	Genset Installation	36	04SEP06A	03FEB07	98	0	2	-134	-138																																	
EM1175	BS Works for TVS Plenums	30	11SEP06A	23JAN07	90	0	3	-132	-151																																	
ENT South Portal Bldg (3F/ Fan Rm) - E & M Works																																										
EM1070	LV Sw, MCC, UPS, LCC Installation	30	25JUL06A	10JAN07A	100	0	0		-128																																	
EM1060	BS Works for LV Sw, MCC, UPS, LCC	12	31JUL06A	22JAN07	98	0	2	-158	-168																																	
EM1150	E&M Works in Corridors 3/F	24	31JUL06A	22JAN07	98	0	2	-166	-144																																	
EM1090	BS Works for 110V Charger Rm	12	01AUG06A	29JAN07	98	0	2	-166	-138																																	
EM1170	Termination of overall Elect HV & LV Sys	30	15OCT06A	01MAR07	50	0	8	-172	-100																																	
ENT South Portal Bldg (4F/Upr Plen) - E & M Work																																										
EM1180	TVS Installation	100	22AUG06A	02MAR07	90	0	20	-132	-91																																	
Testing and Commissioning																																										
EM1050	HV Sw + Tx Termination + T&C	30	04DEC06A	29JAN07	50	0	5	-147	-76																																	

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
Testing and Commissioning																	
EM1100	110V Charger Rm Installation + T&C	12	20DEC06A	05FEB07	50	0	6	-166	-132								
EM1080	LV Sw, MCC, UPS, LCC Termination + T&C	30	06JAN07A	22FEB07	50	0	5	-166	-114								
EM1130	Genset Termination + T&C	12	20JAN07	10FEB07	0	0	12	-134	-132								
EM1190	Integrated E&M System T&C	52	30MAR07	07JUN07	0	0	52	-173	-102								
Statutory Inspection & Issued Certificates																	
EM1200	Submit WR1 to CLP	1	02MAR07	02MAR07	0	0	1	-172	-100								
EM1210	CLP insp.	18	03MAR07	23MAR07	0	0	18	-172	-100								
EM1220	Energization at ENT SP Bldg	0		23MAR07	0	0	0	-172	-100								
EM1320	Submit Form WWO46 for Water Supply to WSD	30	03FEB07	13MAR07	0	0	30	-105	-184								
EM1340	Water Supply Certificate issued	0		13MAR07	0	0	0	-105	-184								
<b>EAGLES NEST TUNNEL</b>																	
<b>Contract defined dates, stages &amp; sections</b>																	
<b>Area access &amp; vacation dates</b>																	
ACS_F1	Access to Portions - F1 (U/Gnd Sth Portal)	0	20OCT03A		100	100	0		-261								
ACS_F2	Access to Portions - F2 (U/Gnd Sth Tunnel)	0	20OCT03A		100	100	0		-261								
<b>Design &amp; Engineering - Temporary Works</b>																	
<b>Permanent Works</b>																	
<b>Tunnel</b>																	
1668	Eng Approve Dsg X-passage/Adit Fire Doors	12	20JAN07	02FEB07	0	0	12	189	-215								
1669	Issue Constr Dwgs X-passage/Adit Fire Doors	0		02FEB07	0	0	0	189	-215								
<b>Procurement - Material</b>																	
<b>Tunnelling Project Wide</b>																	
1685	Order/Manufact/Del Fire Doors	50	03FEB07	10APR07	0	0	50	189	-215								
<b>Construction Works</b>																	
<b>Tunnel Drive North Bound</b>																	
<b>Tunnel Finishing Works</b>																	
<b>Bituminous Pavement</b>																	
3601	NB Base Course - RHS 650m Ch 1730->1080	4	28NOV06A	20JAN07	98	0	1	-69	-188								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV							DEC							JAN							FEB							MAR							APR							MAY							
										38							39							40							41							42							43							44							
										13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	5	12	19	26	5	12	19	26	5	12	19	26	5	12	19	26	5	12	19	26	5									
<b>Bituminous Pavement</b>																																																											
3605	NB Base Course - LHS 650m Ch 1730->1080	4	28NOV06A	20JAN07	98	0	1	-69	-176																																																		
3600	NB Base Course - RHS 650m Ch 2380->1730	4	30NOV06A	27DEC06A	100	0	0		-172																																																		
3604	NB Base Course - LHS 650m Ch 2380->1730	4	30NOV06A	27DEC06A	100	0	0		-160																																																		
3599	NB Base Course - RHS 650m Ch 3030->2380	4	02JAN07A	16JAN07A	100	0	0		-192																																																		
3603	NB Base Course - LHS 650m Ch 3030->2380	4	02JAN07A	16JAN07A	100	0	0		-180																																																		
1349	NB Wearing Course - RHS 650m Ch3030->2380	4	27MAR07	30MAR07	0	0	4	-121	-89																																																		
1359	NB Wearing Course - RHS 650m Ch2380->1730	4	31MAR07	04APR07	0	0	4	-121	-89																																																		
1369	NB Wearing Course - RHS 650m Ch1730->1080	4	10APR07	13APR07	0	0	4	-121	-89																																																		
1379	NB Wearing Course - LHS 650m Ch3030->2380	4	14APR07	18APR07	0	0	4	-121	-89																																																		
1389	NB Wearing Course - LHS 650m Ch2380->1730	4	19APR07	23APR07	0	0	4	-121	-89																																																		
1399	NB Wearing Course - LHS 650m Ch1730->1080	4	24APR07	27APR07	0	0	4	-121	-89																																																		
1339	NB Road Marking 1950m	18	28APR07	19MAY07	0	0	18	-121	-89																																																		
<b>VE Panel Installation</b>																																																											
3616	NB - VE Panel Sub-Frame Installation	60	31OCT06A	23JAN07	95	0	3	-105	0																																																		
3636	NB - VE Panel Installation	55	02JAN07A	09MAR07	32	0	37	-107	0																																																		
3656	NB - Niche Cabinets	50	09JAN07A	02MAR07	70	0	15	-81	0																																																		
3646	NB - Bespoke Panels (Niches)	20	20JAN07	14MAR07	0	0	20	-81	0																																																		
<b>ENT NB TUNNEL - (E&amp;M) BUILDING SERVICES</b>																																																											
MVAC / Tunnel Ventilation Syst Above OHVD																																																											
277963	Ent NB - Install Motorised Smoke & Fire Dampers	72	04JAN06A	20JAN07	99	45	1	-171	-187																																																		
277964	Ent NB - Comp Air Pipes/Condts to E/P16 to E/P21	36	10FEB06A	22JAN07	95	40	2	-169	-182																																																		
277965	Ent NB - Comp Air Pipes/Condts to E/P15 to E/P8	36	27MAR06A	22JAN07	95	30	2	-171	-176																																																		
277966	Ent NB - Comp Air Pipes/ Condts to E/P1to E/P7	36	13JUN06A	29JAN07	95	0	2	-171	-146																																																		
277967	Ent NB - Cabling, Wiring and Termination	60	10OCT06A	12FEB07	70	0	18	-171	-122																																																		
277968	Ent NB - MVAC Testing and T&C	36	13FEB07	29MAR07	0	0	36	-171	-116																																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
Fire Protection System											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
277990	Ent NB - Install FS Conduit for Niches	54	07FEB06A	24JAN07	93	40	4	-151	-187																												
277991	Ent NB - Install brckts for detection sys @ C/L	60	29JUL06A	23JAN07	95	0	3	-151	-158																												
277992	Ent NB - Install detection system @ Ceiling Lvl	42	20SEP06A	10JAN07A	100	0	0		-105																												
277995	Ent NB - 100d FH / HR Pipeworks & Fittings @ G/L	60	10OCT06A	03APR07	95	0	6	-173	-169																												
277996	Ent NB - FS Wiring and Terminations	30	10OCT06A	03APR07	25	0	23	-173	-139																												
277994	Ent NB - Install Hose Reel Cabinets & Eqpt @ G/L	48	20JAN07	20MAR07	0	0	48	-173	-205																												
277997	Ent NB - FS Testing and T&C	24	04APR07	07MAY07	0	0	24	-173	-139																												
Electrical Works Above OHVD																																					
278000	Ent NB - HV & LV Mn/Submain Cables to CP21-CP11	72	22JUN06A	15JAN07A	100	0	0		-124																												
278001	Ent NB - HV & LV Mn/Submain Cables to CP01-CP10	72	26JUN06A	15JAN07A	100	0	0		-102																												
278003	Ent NB - Placing Sandfill and PC Covers	36	29AUG06A	01FEB07	70	0	11	-132	-93																												
Electrical Works Below OHVD																																					
278009	Ent NB - Conduit Works (Above & Below OHVD)	60	01MAR06A	15JAN07A	100	30	0		-169																												
278010	Ent NB - Earthing & Lighting Fixture @ C/Lvl	72	02MAY06A	15JAN07A	100	2	0		-140																												
278012	Ent NB - Cabling,Wirings&Term @ Ceiling/ Grd Lvl	48	13JUN06A	05MAR07	90	0	35	-151	-142																												
278013	Ent NB - Lighting / Equipt Testing and T&C	60	15JAN07A	28MAY07	5	0	50	-167	-184																												
278011	Ent NB-Install CCTV,Camera,Eqpt @C/Lvl (By TCSS)	72	20JAN07	21APR07	0	0	72	-116	-197																												
278083	Place Covers on C, Trough	18	06MAR07	26MAR07	0	0	18	-121	-142																												
Tunnel Drive South Bound																																					
Tunnel Finishing Works																																					
2172	SB Cleaning/Inspection & Install Induction Loop	12	19APR07	03MAY07	0	0	12	-107	-63																												
Bituminous Pavement																																					
1350	SB Wearing Course - RHS 650m Ch3030->2380	4	03MAR07	07MAR07	0	0	4	-107	-63																												
1370	SB Wearing Course - RHS 650m Ch 2380->1730	4	08MAR07	12MAR07	0	0	4	-107	-63																												
1390	SB Wearing Course - RHS 650m Ch1730->1080	4	13MAR07	16MAR07	0	0	4	-107	-63																												
1360	SB Wearing Course - LHS 650m Ch3030->2380	4	17MAR07	21MAR07	0	0	4	-107	-63																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	Gantt Chart												
										NOV 38	DEC 39	JAN 40	FEB 41	MAR 42	APR 43	MAY 44						
Bituminous Pavement																						
1380	SB Wearing Course - LHS 650m Ch2380->1730	4	22MAR07	26MAR07	0	0	4	-107	-63													
1400	SB Wearing Course - LHS 650m Ch1730->1080	4	27MAR07	30MAR07	0	0	4	-107	-63													
1340	SB Road Marking	18	31MAR07	25APR07	0	0	18	-107	-63													
VE Panel Installation																						
3643	SB - VE Panel Installation	55	16AUG06A	22JAN07	98	0	2	-107	0													
3663	SB - Niche Cabinets	50	28NOV06A	25JAN07	90	0	5	-79	0													
3653	SB - Bespoke Panels (Niches)	20	26JAN07	21FEB07	0	0	20	-63	0													
<b>ENT SB TUNNEL - (E&amp;M) BUILDING SERVICES</b>																						
MVAC / Tunnel Ventilation System Above OHVD																						
278014	Ent SB - Install Motorised Smoke & Fire Dampers	72	31DEC05A	22JAN07	99	40	2	-154	-186													
278015	Ent SB - Comp Air Pipes/Condts to E/P16 to E/P21	36	27MAR06A	22JAN07	95	58	2	-154	-198													
278017	Ent SB - Comp Air Pipes/ Condts to E/P1 to E/P7	36	13JUN06A	22JAN07	95	0	2	-154	-150													
278018	Ent SB - Cabling, Wiring and Termination	60	13JUN06A	05FEB07	90	0	8	-154	-102													
278019	Ent SB - MVAC Testing and T&C	36	20JAN07	08MAR07	0	0	36	-153	-94													
Fire Protection System																						
278035	Ent SB - Install detection system @ Ceiling Lvl	42	20SEP06A	22JAN07	95	0	2	-137	-131													
278039	Ent SB - FS Wiring and Terminations	30	10OCT06A	03APR07	25	0	22	-173	-153													
278037	Ent SB - Install Hose Reel Cabinets & Eqpt @ G/L	48	20DEC06A	20MAR07	50	0	48	-173	-195													
278040	Ent SB - FS Testing and T&C	24	04APR07	07MAY07	0	0	24	-173	-153													
Electrical Works Above OHVD																						
278044	Ent SB - HV & LV Mn/submain Cables to CP01-CP10	72	09JUN06A	15JAN07A	100	0	0		-102													
278043	Ent SB - HV & LV Mn/Submain Cables to CP21-CP11	72	15JUN06A	15JAN07A	100	0	0		-127													
278046	Ent SB - Placing Sandfill and PC Covers	36	07JUL06A	24JAN07	90	0	4	-125	-74													
Electrical Works Below OHVD																						
278055	Ent SB - Cabling,Wirings&Term @ Ceiling/ Grd Lvl	48	07AUG06A	06FEB07	90	0	15	-131	-98													
278056	Ent SB - Lighting / Equipt Testing and T&C	60	15JAN07A	28MAY07	5	0	50	-167	-160													

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
Electrical Works Below OHVD																	
278054	Ent SB-Install CCTV,Camera,Eqpt @C/Lvl (by TCSS)	72	20JAN07	21APR07	0	0	72	-116	-179								
278096	Place Covers on C. Trough	18	07FEB07	02MAR07	0	0	18	-107	-98								
<b>Vent Adit Tunnel / Cross Passage 7</b>																	
<b>ENT CROSS PASSAGE CP07 - (E&amp;M) BUILDING SERVICES</b>																	
MVAC / Tunnel Ventillation System Above OHVD																	
278059	CP7 - Cabling, Wiring, Termination & Test	18	28AUG06A	24JAN07	95	0	2	-119	-149								
Fire Protection System																	
278062	CP7 - Cabling, Wiring, FS detectn & Alarm Bell	48	10OCT06A	06FEB07	90	0	15	-154	-130								
278063	CP7 - FS Termination & Test	24	07FEB07	09MAR07	0	0	24	-154	-130								
Electrical Works																	
278086	HGC - Cabling	36	20JAN07	06MAR07	0	0	36	215	-142								
278066	CP7 - Install Conduit, lighting & switches @ C/L	48	03JUL06A	25JAN07	90	0	5	-124	-120								
278069	CP7 - HV/ LV Cabling, Wiring & Term to CP7 LV Rm	48	20SEP06A	23JAN07	95	0	3	-123	-118								
278070	CP7 - HV / LV Cables Testing and T&C	24	15DEC06A	29JAN07	90	0	5	-123	-99								
278067	CP7 - Cabling, Wiring & Termination and Test	24	20DEC06A	30JAN07	90	0	4	-124	-100								
<b>ENT Cross Passages</b>																	
<b>CROSS PASSAGES (CP1-CP6 &amp; CP8-CP21) - (E&amp;M) WORK</b>																	
Electrical Works																	
278077	(CP21-CP11) - MCCB/ MCB Brd,CMCS,Busbar,Switches	72	03MAY06A	22JAN07	98	0	2	-172	-145								
278078	(CP1-CP10) - MCCB/ MCB Brd,CMCS,Busbar,Switches	72	03MAY06A	22JAN07	98	0	2	-172	-147								
278075	(CP1-CP21) - Conduit,light,Signage fixt,Switches	60	17JUL06A	31JAN07	50	0	10	-168	-165								
278079	(CP1-CP21) - HV & LV Cables Terminations & Test	60	08AUG06A	01MAR07	80	0	12	-172	-100								
278076	(CP1-CP21) - Cabling, Wiring, Termination & Test	36	15AUG06A	24FEB07	70	0	7	-168	-147								
278080	(CP1-CP21) - Cables Testing and T&C	36	01NOV06A	19MAR07	80	0	7	-162	-91								
<b>VENTILATION ADIT &amp; BUILDING</b>																	
<b>Submittals &amp; Approvals</b>																	
<b>ABWF &amp; Builders Works</b>																	
1972	VA Bldg. - Approve door details	24	07MAY05A	21DEC06A	100	70	0		-184								



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
<b>PROCUREMENT</b>																																					
<b>ARCHITECTURAL</b>																																					
2026	VA Bldg. - Procure expanded metal mesh cladding	60	06JUN05A	30JAN07	50	50	9	-136	-215																												
2031	VA Bldg. - Initial delivery slate cladding	0	20JAN07*		0	0	0	-119	-130																												
2034	VA Bldg. - Initial delivery fall arrest roof sys	0	20JAN07*		0	0	0	-81	-161																												
2035	VA Bldg. - Initial delivery balust & metal works	0	20JAN07*		0	0	0	-81	-161																												
2043	VA Bldg. - Initial deliv exp metal mesh cladding	0	10MAR07		0	0	0	-136	-169																												
<b>CONSTRUCTION WORKS</b>																																					
<b>EXTERNAL WORKS</b>																																					
<b>Drainage</b>																																					
S1900	Petrol interceptor & Storm Drain at East Side	48	20JAN07	20MAR07	0	0	48	-169	-184																												
S1940	Foul Drain Pipe & Holding Tank	24	20JAN07	16FEB07	0	0	24	-153	-184																												
S1960	Storm Drain at West Side	24	20JAN07	16FEB07	0	0	24	-171	-198																												
S1970	Storm Drain & Gullies at Access Apron	24	21FEB07	20MAR07	0	0	24	-171	-198																												
<b>Ducting &amp; Drawpits</b>																																					
S1910	Ducting & Drawpits	18	06MAR07	31MAR07	0	0	18	-169	-166																												
S1980	HGC Ducting & Drawpits	18	06MAR07	31MAR07	0	0	18	-169	-148																												
<b>Watermain Works</b>																																					
S1950	Watermain & Valve Chambers at Building Apron	24	07MAR07	03APR07	0	0	24	-171	-186																												
S1990	Irrigation Pipework	18	04APR07	28APR07	0	0	18	-171	-186																												
<b>Construction of Watermains Across Tai Po Rd</b>																																					
SB3100	Stage 4 - Watermain Crossing Tai Po Rd	22	06DEC06A	29DEC06A	100	0	0		-29																												
SB3110	Stage 5 - Watermain Crossing Tai Po Rd	4	10JAN07A	13JAN07A	100	0	0		-30																												
SB3120	Stage 6 - Watermain Crossing Tai Po Rd	4	15JAN07A	18JAN07A	100	0	0		-22																												
SB3130	Stage 7 - Watermain Crossing Tai Po Rd	4	19JAN07A	23JAN07	90	0	3	-48	-13																												
SB3150	Stage 4(R) - Watermain Crosssing Tai Po Rd	4	05JAN07A	09JAN07A	100	0	0		0																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV		DEC			JAN			FEB			MAR			APR			MAY												
										38	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14			
<b>Road Pavement &amp; Associated Work</b>																																							
S1920	Preparation and Block Paving	48	04APR07	05JUN07	0	0	48	-171	-150																														
<b>VENTILATION BUILDING</b>																																							
<b>VA Building - Structure</b>																																							
T2130	Installation of Exhaust Shaft Steelwork	24	03JAN07A	06FEB07	20	0	15	-130	-198																														
T3140	Backfilling Around Ventillation Building	24	20DEC06A	14FEB07	10	0	22	229	0																														
T3130	Installation of Earth mat	24	20JAN07	16FEB07	0	0	24	-139	-162																														
T3360	NEW ACTIVITY - Waiting for Earth Mat Detail	2	15FEB06A	21DEC06A	100	0	0		0																														
T3370	NEW ACTIVITY - Preparation of Revised CSD	6	22DEC06A	08JAN07A	100	0	0		0																														
T3380	NEW ACTIVITY - Complete Tunnel Eart Tape	24	20JAN07	16FEB07	0	0	24	-145	0																														
<b>VA Building - ABWF</b>																																							
T3030	ABWF - GL Paint Touch Up & Doors	12	17MAR07	30MAR07	0	0	12	-102	-130																														
T3040	ABWF - 1FL Paint Touch Up & Doors	12	17MAR07	30MAR07	0	0	12	-102	-130																														
T3050	ABWF - Fan Rooms & Plenums Touch Up & Doors	12	17MAR07	30MAR07	0	0	12	-102	-130																														
<b>VA Building - External Finishes</b>																																							
T2050	VA Bldg. - Ext. Wall Waterproof Render	20	10JUL06A	23JAN07	95	0	3	-96	-181																														
T3110	VA Bldg. - Install Aluminum louvres & doors	60	11NOV06A	28MAR07	50	0	40	-130	-168																														
T3090	VA Bldg. - 25thk Roof Screed & Roofing Tiles	18	16DEC06A	07FEB07	5	0	16	-97	-151																														
T3070	VA Bldg. - External Wall Painting	22	18DEC06A	06FEB07	10	0	12	-96	-165																														
T2140	VA Bldg. - Slate Cladding	44	20JAN07	15MAR07	0	0	44	-119	-130																														
T3120	VA Bldg. - Alum Comp Panel Cladding to Ext Walls	60	20JAN07	03APR07	0	0	60	-135	-133																														
T3100	VA Bldg. - GMS,S/S Channel, Balustrade & Railing	18	08FEB07	03MAR07	0	0	18	-97	-151																														
T2110	VA Bldg. - Expanded metal cladding to Ext Walls	22	10MAR07	04APR07	0	0	22	-136	-169																														
T3105	VA Bldg. - Removed External Scaffolding	12	10APR07	23APR07	0	0	12	-136	-134																														
<b>E &amp; M WORKS</b>																																							
<b>Ventilation Adit Bldg (GF/Lwr Plen) - E &amp; M Work</b>																																							
EM2040	BS Works for HV Sw + Tx	12	17JUL06A	20JAN07	99	0	1	-155	-188																														



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV		DEC			JAN			FEB			MAR			APR			MAY							
										38	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23
<b>ENT NORTH PORTAL VENTILATION BUILDING</b>																																		
<b>PROCUREMENT - MATERIAL</b>																																		
<b>ABWF WORKS</b>																																		
1981	NP.Bldg. - Procure expanded metal cladding	180	06JUN05A	30JAN07	50	50	9	-138	-215																									
2039	NP.Bldg. - Initial delivery of doors	0	20DEC06A		100	0	0		-144																									
2051	NP.Bldg. - Initial delivery slate cladding	0	20JAN07*		0	0	0	-99	-156																									
2052	NP.Bldg. - Initial delivery balust & metal works	0	20JAN07*		0	0	0	-87	-168																									
2053	NP.Bldg. - Initial delivery fall arrest roof sys	0	20JAN07*		0	0	0	-87	-168																									
2066	NP.Bldg. - Initial deliv expanded metal cladding	0	10MAR07*		0	0	0	-138	-169																									
<b>CONSTRUCTION</b>																																		
<b>North Portal Bldg. - CIVIL &amp; ABWF WORKS</b>																																		
<b>STRUCTURE</b>																																		
T1390	NP Bldg - Exhaust Shaft (+110.38mPD)	18	24MAY06A	29JAN07	80	0	8	-135	-197																									
<b>ABWF WORKS</b>																																		
<i>Internal Works GF</i>																																		
T1650	GF ABWF Initial finishes	18	04MAR06A	20JAN07A	100	28	0		-203																									
T1910	GF - paint touch up & doors	12	27NOV06A	10APR07	5	0	10	-107	-133																									
<i>NP Bldg - Internal Works 1F</i>																																		
T1920	1F - paint touch up & doors	12	20NOV06A	02APR07	40	0	7	-104	-130																									
<i>NP Bldg - Internal Works 2F</i>																																		
T1930	2F - paint touch up & doors	12	11DEC06A	10APR07	10	0	10	-107	-133																									
<i>NP Bldg Internal Works 3/F</i>																																		
T1880	3F - paint touch up & doors	12	20NOV06A	14FEB07	50	0	6	-67	-159																									
<i>NP Building - Internal Works</i>																																		
T1620	4F ABWF initial finishes	12	24JUL06A	12FEB07	95	0	1	231	-197																									
T1950	4F - paint touch up & doors	12	26MAR07	12APR07	0	0	12	-109	-135																									
<i>NP Bldg - Roofing &amp; External Facade</i>																																		
T2238	Ent NPB - Ext. Wall Waterproof Render	18	17JUL06A	25JAN07	70	0	5	-132	-194																									
T1740	Ent NPB - Install Aluminum louvres & doors	90	14AUG06A	12FEB07	85	0	13	-135	-119																									
T1800	Ent NPB - Roof Waterproofing & Test	12	20OCT06A	06FEB07	40	0	7	-130	-192																									

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
NP Bldg - Roofing & External Facade																	
T1750	Ent NPB - Alum. Comp Panel Cladding to Ext Walls	60	09NOV06A	16MAR07	25	0	45	-108	-102								
T1780	Ent NPB - Slate cladding above NB/SB carriageway	36	25NOV06A	14FEB07	40	0	22	-99	-142								
T1700	Ent NPB - 25thk Roof Screed & Roofing Tiles	18	08DEC06A	14MAR07	10	0	16	-130	-190								
T1730	Ent NPB - External Wall Painting	34	02FEB07	16MAR07	0	0	34	-132	-194								
T1770	Ent NPB - Expanded metal cladding to Ext Walls	36	10MAR07	25APR07	0	0	36	-138	-169								
T1790	Ent NPB - GMS,S/S Channel, Balustrade & Railing	24	17MAR07	18APR07	0	0	24	-132	-192								
T1795	Ent NPB - Removed External Scaffolding	12	26APR07	10MAY07	0	0	12	-138	-132								
<b>ENT North Portal Bldg. - BUILDING SERVICES</b>																	
<b>E &amp; M WORKS</b>																	
ENT North Portal Bldg (G/F) - E & M Works																	
T1720	Installation of FS Pumps & Pipework at GF	18	15SEP06A	22JAN07	98	0	2	-95	-186								
ENT North Portal Bldg (2F/Silencer) - E & M Work																	
EM2930	BS Works for TVS Plenums	30	17JUN06A	10JAN07A	100	0	0		-163								
EM2580	BS Works for HV Sw + Tx	12	20JUN06A	20JAN07	98	0	1	-144	-192								
EM2700	BS Works for LV Sw	12	20JUN06A	20JAN07	98	0	1	-146	-192								
EM2860	E&M Works in Corridors 2/F	24	17JUL06A	20JAN07	95	0	1	-146	-180								
EM2800	BS Works for Genset	18	01AUG06A	20JAN07	98	0	1	-144	-186								
EM2900	E&M Works in Risers	48	10AUG06A	05FEB07	95	0	2	-147	-143								
ENT North Portal Bldg (3F/ Fan Rm) - E & M Works																	
EM2640	BS Works for MCC, UPS, LCC	12	20JUN06A	20JAN07	98	0	1	-150	-190								
EM2880	E&M Works in Corridors 3/F	24	17JUL06A	22JAN07	95	0	2	-147	-179								
EM2760	BS Works for 110V Charger Rm	12	01AUG06A	22JAN07	98	0	2	-155	-191								
EM2820	Genset Installation	30	01SEP06A	27JAN07	95	0	2	-144	-156								
EM2660	MCC, UPS, LCC Installation	30	18SEP06A	10JAN07A	100	0	0		-157								
EM2920	Termination of overall Elect HV & LV Sys	30	15OCT06A	10MAR07	25	0	10	-155	-147								
EM2890	Compressor Room Installation	18	15DEC06A	07FEB07	10	0	16	-131	-199								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
ENT North Portal Bldg (4F/Upr Plen) - E & M Work																																					
EM2940	TVS Installation	100	02AUG06A	24MAR07	98	0	5	-163	-135																												
Testing and Commissioning																																					
EM2620	HV Sw + Tx Termination + T&C	30	06JAN07A	14FEB07	10	0	10	-147	-90																												
EM2680	MCC, LCC Termination + T&C	30	06JAN07A	14FEB07	10	0	10	-155	-157																												
EM2740	LV Sw Termination + T&C	30	06JAN07A	14FEB07	10	0	10	-155	-153																												
EM2780	110V Charger Rm Installation + T&C	12	20JAN07	02FEB07	0	0	12	-155	-189																												
EM2840	Genset Termination + T&C	12	29JAN07	10FEB07	0	0	12	-144	-156																												
EM2960	Integrated E&M System T&C	52	31MAR07	06JUN07	0	0	52	-172	-100																												
Statutory Inspection & Issued Certificates																																					
EM3040	Permanent power energization from ENT SP Bldg	6	24MAR07	30MAR07	0	0	6	-172	-100																												
<b>TOLL PLAZA &amp; ANCILLIARY STRUCTURES</b>																																					
<b>SUBMITTALS &amp; APPROVALS</b>																																					
<b>ABWF &amp; BW SUBMITTALS</b>																																					
1522	TP/FB - Approve footbridge details	24	28JUL05A	02FEB07	50	50	12	239	-215																												
<b>Construction Works</b>																																					
<b>TOLL PLAZA EAST SIDE</b>																																					
K1232	Carriageway Drainage Prior to TCSS	36	27APR06A	21DEC06A	100	10	0		-161																												
K1222	Main carriageway Ducting & Drawpits	54	02MAY06A	08JAN07A	100	0	0		-120																												
S1170	FW Watermains Centre to Admin Bldg & FH12, FH13	36	02MAY06A	23JAN07	99	0	2	-112	-158																												
S1160	Installation of Ducting and Drawpits for TCSS	32	08MAY06A	28DEC06A	100	0	0		-133																												
K1212	Main Carid'way Drain (D3 & D4) - after stockpile	57	20MAY06A	23JAN07	95	0	3	-124	-161																												
K1242	Main carriageway - East Subbase and kerbs	53	16OCT06A	17MAR07	40	0	31	-124	-135																												
S1420	Road Pavement Surfacing (Flex & Rigid)	56	18OCT06A	04APR07	40	0	34	-124	-135																												
K1182	East Loop Road - Drainage	28	12DEC06A	25JAN07	90	0	5	-82	-192																												
K1192	East Loop Road - Formation & Roadworks	36	12JAN07A	07MAR07	10	0	32	-82	-86																												
K1252	E&M / Lighting works	24	20JAN07	16FEB07	0	0	24	-93	-203																												







Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV		DEC			JAN			FEB			MAR			APR			MAY							
										38	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23
<b>DESIGN &amp; ENGINEERING</b>																																		
<b>TEMPORARY WORKS</b>																																		
1373	Design/ICE Temp False/Formwork Admin Bldg	48	20JAN07	20MAR07	0	0	48	203	-215																									
<b>PROCUREMENT - MATERIAL</b>																																		
<b>ABWF WORKS</b>																																		
1904	Admin.Bldg. - Procure wood ceiling	90	19JAN05A	02FEB07	87	87	12	189	-215																									
1902	Admin.Bldg. - Procure GRP water tank	90	16MAR05A	02FEB07	87	87	12	209	-215																									
1905	Admin.Bldg. - Procure suspended ceiling	120	09MAY05A	06MAR07	70	70	36	155	-215																									
1910	Admin.Bldg. - Procure expanded metal cladding	90	06JUN05A	12FEB07	87	87	20	-163	-215																									
1938	Admin.Bldg. - Initial delivery glass canopy	0	20JAN07*		0	0	0	-105	-194																									
2056	Admin.Bldg. - Initial delivery sheet decking	0	20JAN07		0	0	0	251	-173																									
2059	Admin.Bldg.- Initial deliv fall arrest roof syst	0	20JAN07*		0	0	0	-84	-168																									
2060	Admin.Bldg. - Initial deliver balust & metal wks	0	20JAN07*		0	0	0	-84	-168																									
2058	Admin.Bldg. - Initial delivery wood ceiling	0	11APR07		0	0	0	189	-215																									
2063	Admin.Bldg. - Initial delivery GRP water tank	0	16APR07		0	0	0	185	-215																									
2061	Admin.Bldg.- Initial del expanded metal cladding	0	20APR07*		0	0	0	-163	-213																									
<b>CONSTRUCTION</b>																																		
<b>TCSS Access at Admin Bldg</b>																																		
T3350	TCSS Works Within Admin Bldg / Tunnel & Ext	140	15SEP06A	23JUN07	0	0	110	-174	-149																									
<b>CIVIL &amp; ABWF WORKS</b>																																		
<b>ABWF</b>																																		
Admin Bldg (G/F) - Internal Work @ Grid 1 to 21																																		
T1682	AB (G/F to 1/F) - Staircase Finishing Works	30	18APR06A	01FEB07	65	5	11	-166	-198																									
T1685	AB G/F (Grid 1-21) - Wall Plaster & Flr Screed	20	19APR06A	22JAN07	95	10	2	-157	-203																									
T1680	AB G/F (Grid 1-21) - Windows & door frames	18	24APR06A	22JAN07	90	56	2	-157	-209																									
T3245	Rm (G39/G40/G45/G46) - Wdws & door frames	8	24APR06A	21DEC06A	100	70	0		-191																									
T1975	AB G/F (Grid 1-21) - Base Skirting	18	15JUN06A	19MAR07	90	0	2	-98	-165																									





Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
Admin Bldg - Upper Roof & External Facade																																					
T2860	AB Ext (GL 11-21) - Install Louvres & Wdw Glazing	60	03APR06A	02FEB07	90	70	6	-127	-209																												
T2870	AB Ext UR/LR - Roof Screeding	18	30JUN06A	22JAN07	95	0	2	-131	-199																												
T2230	AB Ext (GL 6-11) - Curtain Wall & Glass Canopy	30	03JUL06A	27FEB07	90	0	3	-105	-173																												
T2232	AB Ext (GL 11-18) - Curtain Wall Installation	21	03JUL06A	09FEB07	90	0	5	-105	-191																												
T2841	AB Ext UR/LR - Render&wall paint to Open Area Rf	12	25JUL06A	05FEB07	75	0	3	-131	-175																												
T2840	AB Ext UR/LR - Roof Waterproofing & Test	24	12AUG06A	22FEB07	90	0	3	-131	-199																												
T2330	AB Ext (GL 1-11) - Slate Cladding	45	15OCT06A	27JAN07	95	0	4	-82	-156																												
T2900	AB Ext UR/LR - Insulation & Conc Roof Tile	30	06NOV06A	19MAR07	50	0	15	-131	-178																												
T2350	AB Ext (GL 1-11) - Ceramic Wall Tiles	30	18DEC06A	13FEB07	30	0	21	-96	-165																												
T2830	AB Ext (GL 11-21) - Ceramic Wall Tiles	30	20JAN07	27FEB07	0	0	30	-123	-204																												
T2915	AB Ext UR/LR- Install GMS, Balustrades & Railing	21	20MAR07	17APR07	0	0	21	-131	-160																												
T2245	AB Ext (GL 1-21) - Remove External Scaffolding	12	20APR07	26MAY07	0	0	12	-163	-189																												
T2270	AB Ext (GL 3-11) - Expanded metal mesh cladding	24	20APR07	18MAY07	0	0	24	-139	-189																												
T2280	AB Ext (GL 11-16) - Expanded metal mesh cladding	24	20APR07	18MAY07	0	0	24	-163	-213																												
<b>BUILDING SERVICES</b>																																					
Admin Bldg (G/F) - E & M Works																																					
EM3540	BS Works in G/F	90	01JUN06A	12MAR07	95	12	5	-166	-177																												
EM3620	E&M Works in Risers	90	12JUN06A	24JAN07	95	0	4	-129	-121																												
EM3220	BS Works for HV Sw + Tx	12	14JUN06A	22JAN07	98	0	2	-166	-205																												
EM3280	BS Works for LV Sw	12	14JUN06A	22JAN07	98	0	2	-166	-193																												
EM3340	BS Works for 110V Charger Rm	12	14JUN06A	22JAN07	98	0	2	-169	-205																												
EM3420	BS Works for Genset	12	14JUN06A	25JAN07	98	0	5	-166	-184																												
EM3300	LV Sw Installation	30	01OCT06A	29JAN07	90	0	3	-160	-161																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV		DEC			JAN			FEB			MAR			APR			MAY							
										38	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23
<b>Admin Bldg (1/F) - E &amp; M Works</b>																																		
EM3560	BS Works in 1/F	90	08JUN06A	13FEB07	90	12	9	-146	-157																									
EM3380	BS Works for UPS Rm (2x)	12	03JUL06A	20JAN07	98	0	1	-168	-185																									
<b>Admin Bldg (2/F) - E &amp; M Works</b>																																		
EM3580	BS Works in 2/F	90	08JUN06A	13FEB07	90	0	9	-146	-118																									
<b>Admin Bldg (Int. &amp; Ext. Roof Lvl) - E &amp; M Works</b>																																		
EM3600	BS Works in R/F	78	06JUN06A	15FEB07	70	1	23	-148	-165																									
EM3190	Admin Bldg - Lift Installation	72	19JUN06A	27JAN07	95	0	7	-76	-66																									
EM3720	Chiller System in R/F (inc. All AC Units)	72	20JUN06A	24JAN07	95	0	4	-119	-63																									
<b>Admin Bldg - Testing and Commissioning</b>																																		
EM3640	Termination of overall Elect HV & LV Sys	36	10OCT06A	27MAR07	20	0	10	-169	-115																									
EM3260	HV Sw + Tx Termination + T&C	30	09JAN07A	26FEB07	10	0	15	-154	-127																									
EM3360	110V Charger Rm Installation + T&C	12	23JAN07	05FEB07	0	0	12	-169	-155																									
EM3460	Genset Termination + T&C	12	23JAN07	05FEB07	0	0	12	-139	-143																									
EM3520	MCC Termination + T&C	30	24JAN07	02MAR07	0	0	30	-158	-148																									
EM3320	LV Sw Termination + T&C	30	06FEB07	15MAR07	0	0	30	-169	-155																									
EM3740	Integrated E&M System T&C	52	28MAR07	02JUN07	0	0	52	-169	-98																									
<b>Admin Bldg - Statutory Inspection and Handover</b>																																		
EM3370	Admin Bldg - Lift Commissioning	24	29JAN07	28FEB07	0	0	24	-76	-66																									
EM3820	Permanent power energization from SHT NP Bldg	6	20MAR07	26MAR07	0	0	6	-168	-97																									
<b>SHATIN HEIGHTS SOUTH PORTAL BUILDING</b>																																		
<b>CONTRACT DEFINED DATES &amp; SECTIONS</b>																																		
<b>AREA ACCESS &amp; VACATION DATES</b>																																		
ACS_J2	Access to - J2 (T.Plate & above) SH-S.Vent.Bldg.	0	10DEC05A		100	100	0		-261																									
ACS_D8	Access to Portion - D8	0	03JAN06A		100	100	0		-261																									

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV		DEC			JAN			FEB			MAR			APR			MAY	
										38	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26
<b>PROCUREMENT - MATERIAL</b>																												
<b>ABWF WORKS</b>																												
2077	SHT SPB - Procure expanded metal mesh cladding	180	06JUN05A	06FEB07	50	50	15	-134	-210																			
2082	SHT SPB - Initial delivery of slate cladding	0	20JAN07*		0	0	0	-99	-177																			
2083	SHT SPB - Initial deliv fall arrest roof syst.	0	20JAN07*		0	0	0	-75	-168																			
2085	SHT SPB - Initial deliv expanded metal cladding	0	13MAR07*		0	0	0	-134	-184																			
<b>CONSTRUCTION</b>																												
<b>TCSS Access to SHT Sout Portal Bldg</b>																												
EM6700	TCSS Containment in G/F	12	15NOV06A	19JAN07A	100	0	0		-186																			
EM6710	TCSS ACCESS GF (Room G01-G05, G08-G10)	0		19JAN07A	100	0	0		-198																			
EM6720	TCSS ACCESS GF(Room G07,G11,G12)	0		19JAN07A	100	0	0		-186																			
<b>CIVIL &amp; ABWF WORKS</b>																												
AB5983	U/G Drainages and Utilities under bldg	24	01APR06A	22JAN07	95	0	2	-107	-193																			
AB5986	Backfill, G/F Slabs and Walls	24	20APR06A	05FEB07	95	0	2	-107	-181																			
<b>ABWF</b>																												
AB6022	Remedy SHT Contractor Defects	25	12DEC05A	23JAN07	90	90	3	-166	-213																			
<b>ABWF at GF</b>																												
AB5989	Initial Finishes to G/F	18	11FEB06A	20JAN07A	100	5	0		-199																			
AB6042	G/F Paint Touch Up & Doors	12	26JAN07	08FEB07	0	0	12	-62	-90																			
<b>ABWF at 1F &amp; LP</b>																												
AB5995	Initial Finishes to Lower Plenum	12	10APR06A	30JAN07	95	15	5	-120	-207																			
AB6032	1F & LP Paint Touch Up & Doors	12	03NOV06A	01FEB07	50	0	6	-56	-84																			
<b>ABWF at 2F</b>																												
AB6052	2/F Paint Touch Up & Doors	12	11NOV06A	01FEB07	50	0	6	-56	-84																			
<b>ABWF at 3F</b>																												
AB6062	3/F Paint Touch Up & Doors	12	11NOV06A	01FEB07	50	0	6	-56	-84																			
<b>ABWF at 4F and above</b>																												
AB6004	Initial Finishes to 4/F and above	24	13APR06A	30JAN07	90	10	9	-108	-189																			
AB6072	4/F and above Paint Touch Up & Doors	12	26JAN07	08FEB07	0	0	12	-62	-90																			



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
SHT South Portal Bldg (4F/Upr Plen) - E & M Work																	
EM6400	TVS Installation	100	12JUN06A	25JAN07	99	0	5	-120	-90								
Testing and Commissioning																	
EM6120	HV Sw + Tx Termination + T&C	30	27NOV06A	23FEB07	50	0	15	-142	-153								
EM6180	LV Sw, MCC, UPS, LCC Termination + T&C	30	27DEC06A	09FEB07	10	0	10	-139	-144								
EM6280	Genset Termination + T&C	12	15JAN07A	31JAN07	5	0	6	-135	-142								
EM6220	110V Charger Rm Installation + T&C	12	20JAN07	02FEB07	0	0	12	-142	-186								
EM6420	Integrated E&M System T&C	52	31MAR07	06JUN07	0	0	52	-172	-100								
Statutory Inspection & Issued Certificates																	
EM6500	Perm't power energ. (From ENT SPB)	6	24MAR07	30MAR07	0	0	6	-172	-100								
<b>SHT TUNNEL</b>																	
<b>CONSTRUCTION</b>																	
<b>SHT NORTHBOUND TUNNEL</b>																	
<b>(E &amp; M) BUILDING SERVICES</b>																	
MVAC / Tunnel Ventillation System Above OHVD																	
207004	Sht NB - Install Motorized Smoke & Fire Damper	48	22FEB06A	20JAN07A	100	80	0		-207								
207006	Sht NB - Comp Air Pipes/Condts to E/P1 to E/P5	36	12APR06A	26JAN07	98	5	2	-142	-199								
207005	Sht NB - Comp Air Pipes/Condts to E/P10 to E/P6	36	20JUN06A	02FEB07	98	0	2	-142	-169								
207007	Sht NB - Cabling, wiring and termination	24	20JUN06A	06FEB07	95	0	3	-142	-148								
207008	Sht NB - MVAC Testing and T&C	12	07FEB07	23FEB07	0	0	12	-142	-148								
Plumbing and Drainage																	
214030	Sht NB - Pipe Testing & T&C	12	15MAY06A	22JAN07	90	0	2	-135	-177								
214028	Sht NB - Pipe Connectn, pumps, tanks to SP / NP	18	23JAN07	12FEB07	0	0	18	-135	-207								
Fire Protection System																	
221054	Sht NB - Install FS Conduits for Niches	30	22MAR06A	22JAN07	95	20	2	-153	-193								
221057	Sht NB - Hose Reel Cabinets & Equipts	40	08MAY06A	05FEB07	98	0	2	-153	-159								
221052	Sht NB - Install brckt for detection sys @ C/L	30	20OCT06A	23JAN07	90	0	3	-145	-188								
221053	Sht NB - Install detection system @ Ceiling Lvl	24	25OCT06A	26JAN07	90	0	3	-145	-167								





Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
Fire Protection System											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
256518	Sht SB - Hose Reel Cabinets & Equipts	40	30JUN06A	29JAN07	98	0	5	-141	-99																												
256514	Sht SB - Install brckt for detection sys @ C/L	30	04SEP06A	23JAN07	96	0	3	-138	-188																												
256515	Sht SB - Install detection system @ Ceiling Lvl	24	01OCT06A	25JAN07	90	0	2	-138	-166																												
256520	Sht SB - FS Wiring & Termination	24	10NOV06A	05FEB07	60	0	6	-141	-79																												
256521	Sht SB - FS Testing and T&C	12	06FEB07	22FEB07	0	0	12	-141	-79																												
Electrical Works Above OHVD																																					
263655	Sht SB-HV&LV Mn/Submain Cable Pulling (CP6-CP10)	24	10AUG06A	15JAN07A	100	0	0		-94																												
263658	Sht SB-HV&LV Mn/Submain Cable Pulling (CP1-CP5)	24	10AUG06A	15JAN07A	100	0	0		-118																												
263659	E&M Inspection & Access to Civil Contractor	0		15JAN07A	100	0	0		-88																												
Electrical Works Below OHVD																																					
270799	Sht SB - Conduits Works (Above & below OHVD)	48	01MAR06A	15JAN07A	100	42	0		-183																												
270798	Sht SB - Brackets for Lightings @ Ceiling Level	48	01JUN06A	15JAN07A	100	0	0		-186																												
270800	Sht SB - Tunnel Earthing to CP1-CP10	36	01AUG06A	15JAN07A	100	0	0		-150																												
270803	Sht SB - Cabling, Wiring and Termination	36	01OCT06A	10FEB07	50	0	19	-164	-107																												
270801	Stn SB Access to Civil Contractr for Rd Pavement	0	20JAN07		0	0	0	-139	-154																												
270804	Sht SB - Lighting Test and T&C	12	12FEB07	28FEB07	0	0	12	-158	-107																												
270805	Stn SB Access to Civil Contractor for Top Layer	0		28FEB07	0	0	0	-158	-107																												
<b>SHT CROSS PASSAGES (CP1 to CP10)</b>																																					
<b>(E &amp; M) BUILDING SERVICES</b>																																					
Electrical Works																																					
277957	(CP1-CP10) - Cable Containment & Equipt Support	60	03MAY06A	05JAN07A	100	2	0		-145																												
277959	(CP1-CP10) - MCCB / MCB Bd,CMCS,Busbar,Switches	72	13JUN06A	25JAN07	95	0	5	-168	-105																												
277960	(CP1-CP10) - Conduit, light Fixture, Swt & Test	36	15AUG06A	25JAN07	40	0	5	-162	-141																												
277961	(CP1-CP10) - HV & LV Cables Termination & Test	48	15NOV06A	15FEB07	20	0	10	-168	-97																												
277962	(CP1-CP10) - Switchboard, CMCS, Eqpt, Testing	48	20JAN07	12FEB07	0	0	20	-165	-94																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
<b>SHT NORTH PORTAL BUILDING</b>																	
<b>PROCUREMENT - MATERIAL</b>																	
<b>ABWF WORKS</b>																	
2102	SHT NPB - Initial delivery of slate claddings	0	20JAN07*		0	0	0	-129	-168			♦					
2104	SHT NPB - Initial deliv fall arrest roofing syst	0	20JAN07*		0	0	0	-93	-161			♦					
2106	SHT NPB - Initial deliv alum. composite cladding	0	20JAN07*		0	0	0	-115	-133			♦					
<b>CONSTRUCTION</b>																	
<b>TCSS Access to SHT North Portal Bldg</b>																	
EM7286	TCSS Containment in 1/F	12	20JAN07	02FEB07	0	0	12	239	-199			▬					
EM7289	TCSS Containment in Lower Plenum	18	20JAN07	09FEB07	0	0	18	233	-194			▬					
EM7292	TCSS Containment in 2/F	18	20JAN07	09FEB07	0	0	18	233	-199			▬					
EM7295	TCSS Containment in 3/F and above	18	20JAN07	09FEB07	0	0	18	233	-194			▬					
EM7283	TCSS Containment in G/F	12	30JAN07	12FEB07	0	0	12	-243	-202			▬					
EM7290	TCSS ACCESS - GF (Room G02-G03, G04-G08)	0		29JAN07	0	0	0	-239	-202			♦					
EM7293	TCSS ACCESS - GF (Room G09,G15)	0		12FEB07	0	0	0	-243	-202				♦				
<b>CIVIL &amp; ABWF WORKS</b>																	
AB7040	11U/G Drainages and Utilities under bldg	24	20JUL06A	02FEB07	50	0	12	225	-203			▬					
AB7060	Backfill, G/F Slabs and Walls	24	04SEP06A	22FEB07	40	0	14	225	-193			▬					
<b>ABWF Works</b>																	
<b>ABWF at GF</b>																	
AB7080	Initial Finishes to G/F	18	25APR06A	29JAN07	95	7	8	-243	-202			▬					
AB7330	G/F paint Touch Up & Doors	12	15FEB07	03MAR07	0	0	12	-79	-86				▬				
<b>ABWF at 1F &amp; LP</b>																	
AB7120	Initial Finishes to Lower Plenum	12	22APR06A	29JAN07	95	0	8	-137	-202			▬					
AB7320	1F & LP Paint Touch Up & Doors	12	18JAN07A	21FEB07	80	0	3	-70	-77			▬					
<b>ABWF at 2F</b>																	
AB7340	2/F Paint Touch Up & Doors	12	18JAN07A	21FEB07	80	0	3	-70	-77			▬					



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
SHT North Portal Bldg (2F/Silencer) - E & M Work											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
EM7480	Genset Installation	30	01SEP06A	23JAN07	90	0	3	236	-148																												
SHT North Portal Bldg (3F/Fan Rm) - E & M Work																																					
EM7360	BS Works for LV Sw, MCC, UPS, LCC	12	17JUL06A	20JAN07	98	0	1	-165	-183																												
EM7540	E&M Works in Corridors 3/F	24	01AUG06A	27JAN07	95	0	3	-164	-165																												
EM7420	BS Works for 110V Charger Rm	12	15AUG06A	15JAN07A	100	0	0		-178																												
EM7380	LV Sw, MCC, UPS, LCC Installation	30	04SEP06A	05JAN07A	100	0	0		-140																												
EM7580	Termination of overall Elect HV & LV Sys	29	10OCT06A	15FEB07	50	0	5	-168	-97																												
SHT North Portal Bldg (4F/Upr Plen) - E & M Work																																					
EM7620	TVS Installation	100	17JUL06A	05JAN07A	100	0	0		-52																												
Testing and Commissioning																																					
EM7340	HV Sw + Tx Termination + T&C	30	16NOV06A	25JAN07	50	0	3	-152	-132																												
EM7400	LV Sw, MCC, UPS, LCC Termination + T&C	30	22DEC06A	14FEB07	50	0	5	229	-144																												
EM7440	110V Charger Rm Installation + T&C	12	22DEC06A	22JAN07	50	0	2	-152	-172																												
EM7500	Genset Termination + T&C	12	20JAN07	06FEB07	0	0	12	236	-148																												
EM7640	Integrated E&M System T&C	52	20MAR07	25MAY07	0	0	52	-162	-97																												
Statutory Inspection & Issued Certificates																																					
EM7691	Room Available for CLP Equipment Installation	0	20JAN07*		0	0	0	-112	0																												
EM7660	Submit WR1 to CLP (SHT NP Bldg)	6	22JAN07	15FEB07	0	0	6	-168	-97																												
EM7680	CLP insp.	18	16FEB07	12MAR07	0	0	18	-168	-97																												
EM7700	CLP connection/ready for energization	0		12MAR07	0	0	0	-168	-97																												
EM7720	Perm't power energ. (From SHT NPB)	6	13MAR07	19MAR07	0	0	6	-168	-97																												
<b>SHT RC ENCLOSURE &amp; T3 UNDERPASS</b>																																					
<b>INTERFACE DATES</b>																																					
<b>SHT RC FULL ENCLOSURE / T3 UNDERPASS</b>																																					
EM4020	LKJV - Possession of T3 Underpass	0	20JAN07*		0	0	0	-58	-195																												
EM4030	Integrated T&C	30	03APR07	12MAY07	0	0	30	-140	-67																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY																					
										38	39	40	41	42	43	44																					
											13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14
<b>CONSTRUCTION WORKS</b>																																					
<b>SHT RC FULL ENCLOSURE / T3 UNDERPASS</b>																																					
<b>Koisk S1 at Shatin North Control Point</b>																																					
EM3950	Kiosk S1 - Structure & Fittings	24	03OCT06A	05FEB07	40	0	14	-58	-205																												
EM3952	Kiosk S1 - Install E&M Works	18	20JAN07	22FEB07	0	0	18	-58	-199																												
EM3960	Wighbridge S1 - Install	12	20JAN07	02FEB07	0	0	12	-68	-215																												
EM3970	Weighbridge S1 - Test and T&C	30	03FEB07	13MAR07	0	0	30	-68	-215																												
EM3954	Kiosk S1 - E&M Testing and T&C	6	23FEB07	01MAR07	0	0	6	-58	-199																												
<b>RC Full Enclosure - LV Switch Room</b>																																					
280070	E&M Access to Southern LV Switch Room	0	20JAN07		0	0	0	-169	-215																												
280072	LV SW Rm - Cable Containment & Equipt Supports	24	20JAN07	16FEB07	0	0	24	-157	-215																												
280074	LV SW Rm - SWGR, MCCB/ MCB Board, FS Panels	24	27JAN07	27FEB07	0	0	24	209	-185																												
280076	LV SW Rm - Elect Lightings & Conduits	18	03FEB07	06MAR07	0	0	18	-157	-209																												
280079	LV SW Rm - MCCB,MCB,LV Sw,FS panels Term & Test	18	10FEB07	13MAR07	0	0	18	209	-179																												
280080	LV SW Rm - Connect HV / LV Cables from SHT NPB	24	10FEB07	13MAR07	0	0	24	209	-167																												
280078	LV SW Rm - Lightings wiring, term & test	6	07MAR07	13MAR07	0	0	6	-157	-209																												
<b>STN RC FULL ENCLOSURE (North Bound) - E&amp;M WORKS</b>																																					
<b>MVAC / Tunnel Ventillation System</b>																																					
280000	RCFE NB - Ductworks Supports / Containment @ C/L	36	18FEB06A	22JAN07	92	30	2	-133	-200																												
280002	RCFE NB - MVAC Ducts, TVF & MSFD Units @ C/L	48	02MAR06A	10JAN07A	100	25	0		-172																												
280004	RCFE NB - MVAC Pipeworks & Conduits @ C/L	30	08AUG06A	15JAN07A	100	0	0		-146																												
280006	RCFE NB - Cabling, wiring and termination	24	25NOV06A	03FEB07	80	0	5	-106	-139																												
280008	RCFE NB - MVAC Testing and T&C	12	20MAR07	02APR07	0	0	12	-140	-97																												
<b>Fire Protection System</b>																																					
280028	RCFE NB - (100d) FH / HR Pipeworks & Fittings	18	10JUL06A	10JAN07A	100	0	0		-127																												
280026	RCFE NB - FS Conduit, Hose Reel Cabinets & Eqpt.	16	31JUL06A	22JAN07	60	0	2	-123	-141																												
280029	RCFE NB - Install Smoke detector @ N1-N3	10	23JAN07	02FEB07	0	0	10	-111	-141																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	NOV	DEC	JAN	FEB	MAR	APR	MAY	
										38	39	40	41	42	43	44	
Fire Protection System																	
280030	RCFE NB - FS Wiring & Termination	24	27JAN07	27FEB07	0	0	24	-123	-141								
280032	RCFE NB - FS Testing and T&C	12	20MAR07	02APR07	0	0	12	-140	-97								
Electrical Works																	
280044	RCFE NB - Brackets for Lightings @ Ceiling Level	60	30MAY06A	10JAN07A	100	0	0		-147								
280048	RCFE NB - Earthing, Lighting, Eqipt. @ C/L	48	26JUN06A	24JAN07	90	0	4	-107	-111								
280046	RCFE NB - Conduits Works @ Ceiling Level	36	11DEC06A	08FEB07	50	0	17	-120	-136								
280034	RCFE NB - E&M Access to Southern LV Sw Room	0	20JAN07		0	0	0	-169	-179								
280038	RCFE NB - HV & LV Cabling Works @ C Trough	36	20JAN07	06MAR07	0	0	36	-169	-179								
280040	RCFE NB - Install Power Distn Panels & Test	30	07MAR07	14APR07	0	0	30	-169	-179								
280054	RCFE NB - Tunnel Signage, Wiring, Term & Test	40	16APR07	02JUN07	0	0	40	-169	-155								
STN RC FULL ENCLOSURE (South Bound) - E&M WORKS																	
MVAC / Tunnel Ventillation System																	
280082	RCFE SB - Ductworks Supports / Containment @ C/L	36	02MAR06A	24JAN07	90	30	4	-139	-202								
280084	RCFE SB - MVAC Ducts, TVF & MSFD Units @ C/L	48	02MAR06A	10JAN07A	100	25	0		-172								
280086	RCFE SB - MVAC Pipeworks & Conduits @ C/L	30	23OCT06A	10JAN07A	100	0	0		-142								
280088	RCFE SB - Cabling, wiring and termination	24	15FEB07	17MAR07	0	0	24	-139	-172								
280090	RCFE SB - MVAC Testing and T&C	12	20MAR07	02APR07	0	0	12	-140	-97								
Fire Protection System																	
280096	RCFE SB - FS Conduit, Hose Reel Cabinets & Eqpt.	16	01NOV06A	22JAN07	90	0	2	-123	-178								
280100	RCFE SB - Install Smoke detector @ S1-S4	10	23JAN07	02FEB07	0	0	10	-111	-178								
280102	RCFE SB - FS Wiring & Termination	24	27JAN07	27FEB07	0	0	24	-123	-178								
280104	RCFE SB - FS Testing and T&C	12	20MAR07	02APR07	0	0	12	-140	-97								
Electrical Works																	
280110	RCFE SB - E&M Access to Southern LV Sw Room	0	20JAN07*		0	0	0	-169	-179								
280112	RCFE SB - HV & LV Cabling Works @ C Trough	36	20JAN07	06MAR07	0	0	36	-169	-179								
280118	RCFE SB - Conduits Works @ Ceiling Level	36	20JAN07	06MAR07	0	0	36	-139	-155								







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**APPENDIX M  
COMPLAINT LOG**

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## Appendix M - Complaint Log

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
40426	Butterfly Valley	26 April 2004	<p>A public noise complaint was recently received by EPD. The complaint was related to the noise generated from the Route 8 – ENT site near Butterfly Valley at the night time on 21 April 2004. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 23 April 2004.</p>	<p><u>Noise at night time</u> The information provided by the RSS indicated that no works were undertaken by the Contractor during the concerned period. The concerned noise might probably be due to a burglary case occurred at same night.</p> <p><u>Noise during day-time</u> It is believed that the day-time noise complaint was due to the site formation works of the Project. Considering the powered mechanical equipment used at the Butterfly Valley and the echo effect of the valley, ET believe that the day-time construction noise from the site at Butterfly Valley might cause nuisance to the nearby resident to some extent, though there was no noise level exceedance at the Government Quarters during our routine monitoring in last three months.</p> <p>The Contractor agreed to implement mitigation measures, including good site practices, selecting quieter plant and working methods and reduction in numbers of noisy plant operating currently, in order to mitigate noise impacts at the NSRs.</p>	Closed
40914	Garden Villa	<p>13-Sep-04 (by EPD)</p> <p>14-Sep-04 (by ET Leader)</p>	<p>Environmental Protection Department (EPD) received a public noise complaint on 13 September 2004 about construction noise generated from the Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) Project, nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 14 September 2004.</p> <p>The complaint was about general construction noise generated from a construction site nearby Garden Villa at Tai Po Road, Sha Tin. As informed by EPD,</p>	<p><u>Environmental Permits</u> A Construction Noise Permit (No. GW-RN0405-04) was obtained by the Contractor for the use of powered mechanical equipment (PME) in the concerned works area and use of TAR no.1 during restricted hours.</p> <p><u>Blasting Works</u> According to the information provided by the Resident Site Staff (RSS), for carrying out blasting works, a blasting permit should be issued by the Mines Division of Civil Engineering and Development Department (CEDD), but not under the jurisdiction of EPD. The CNP issued by EPD only specified the use of PME but not the blasting works during restricted hours.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			<p>the complainant was particularly concerned of two issues:</p> <ol style="list-style-type: none"> <li>1. The complainant was informed by the Contractor (Leighton – Kumagai Joint Venture) that blasting works would be conducted during restricted hours. He worried about the noise nuisance would be induced by the blasting works.</li> <li>2. Noise nuisance from some site vehicles traveling on the Temporary Access Road (TAR no.1) near Garden Villa was noted by the complainant during restricted hours.</li> </ol>	<p>As advised by the RSS, the Contractor did intend to apply for a permit to the Mines Division of CEDD for blasting works during restricted hours. However, up to the time of preparation of this report, the Contractor still had not obtained the approval from the Mines Division and therefore, no blasting works were performed by the Contractor during restricted hours.</p> <p><u>Use of TAR no.1</u> According to Condition 3d of the above-mentioned CNP, there was restriction on the use of site vehicles traveling on TAR no.1.</p> <p>The usage of site vehicles on TAR no.1 in a 2-week period before the date of complaint, i.e. 30<sup>th</sup> August to 12<sup>th</sup> September 2004 showed that the only vehicle type using TAR no.1 for the concerned period was concrete truck and the number of vehicle pass was limited to 4 times per hour, which was in compliance with the above CNP's conditions.</p> <p>Regular noise monitoring was undertaken by ET at Garden Villa on 30<sup>th</sup> August and 6<sup>th</sup> September 2004 during restricted hours (1900 – 2300 hours). The monitoring results were 58.7 dB(A) and 58.6 dB(A), respectively, which were below the noise limit level of 60 dB(A). However, it should be noted that site vehicles were not used by the Contractor on TAR no.1 during restricted hours on these two monitoring day.</p> <p>Based on the information obtained, the validity for the noise complaint in associated with night-time blasting works could not be concluded under ET's investigation, since no blasting works had been performed by the Contractor during restricted hours at the time of the report preparation. Also, it should be highlighted that for carrying out blasting works, permission should be obtained by Mines Division of CEDD, but not under the control of EPD.</p> <p>For the use of TAR no.1, the RSS's records showed that the number of vehicle pass in the period between 30<sup>th</sup> August and 12<sup>th</sup> September 2004 was complied with the CNP's conditions. It should be noted that only a maximum of 3 concrete trucks</p>	

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				<p>passing the site entrance was recorded. Therefore, it was considered that the nuisance noted by the complainant was not due to the site vehicles adopted by the Contractor (LKJV).</p> <p>Nevertheless, the Contractor was reminded to ensure the compliance of the CNP conditions and adopt good site practice to minimize the construction noise.</p>	
41021	Garden Villa	<p>09-Oct-04 (by EPD)</p> <p>21-Oct-04 (by ET Leader)</p>	<p>Environmental Protection Department (EPD) received a public noise complaint on 9 October 2004 about construction noise generated from the Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) Project, nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 21 October 2004.</p> <p>The complaint was about nighttime construction noise generated from a construction site nearby Garden Villa at Tai Po Road, Sha Tin. As informed by EPD, the complainant was particularly concerned of two issues:</p> <ul style="list-style-type: none"> <li>• Construction works undertaken by the Contractor (Leighton–Kumagai Joint Venture) were noted after 2300 hour.</li> <li>• Some workers were noted leaving the site through Temporary Access Road (TAR) no.1 at around 2 am, causing nuisance to the residents in Garden Villa.</li> </ul>	<p>According to the information provided by the RSS, no construction activity was undertaken in the nighttime period (2300 – 0700 hours) at the concerned site area.</p> <p>LKJV did admit that some vehicles had been operating at midnight for transporting LKJV’s survey workers from the site. Inconsiderate behaviors were noted causing nuisance to Garden Villa residents:</p> <ol style="list-style-type: none"> <li>1. Driving the vehicles too fast, which generated excessive engine noise;</li> <li>2. Noise inside the vehicles (such as staff talking or radios) escaping through the open vehicle windows; and</li> <li>3. Vehicle beeping horn to request the guards to open the gate.</li> </ol> <p>In order to rectify the situation, LKJV had notified the relevant staff with the receipt of the complaint and urged them to take appropriate measures when using TAR1 at night:</p> <ol style="list-style-type: none"> <li>1. to drive slowly in order to reduce the engine noise, especially when approaching Garden Villa;</li> <li>2. to roll up the vehicle windows to contain any noise from talking or radios; and</li> <li>3. to prohibit beeping the vehicle horn for gate opening; instead, to park the car and approach the guard on foot.</li> </ol>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
41023	Government Quarters (Butterfly Valley)	20-Oct-04 (by MHJV)  23-Oct-04 (by ET Leader)	A public complaint was received by the Engineer's Representative (ER) of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project on 20 <sup>th</sup> October 2004. The complaint was raised by a resident of the Government Quarters at Caldecott Road, concerning dust generation as a result of the construction activities at Butterfly Valley. The ER subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 23 <sup>rd</sup> October 2004.	<p>The complaint was considered valid based on:</p> <ol style="list-style-type: none"> <li>1. ER's site observations;</li> <li>2. ET's weekly site audit; and</li> <li>3. 1-hr TSP exceedance record.</li> </ol> <p>Also, the sources of dust generation were identified as</p> <ol style="list-style-type: none"> <li>1. 2 portions of the haul roads, one at Slope BV-S2 and one linking between South Portal Tunnel to Mui Kong Tsuen, were found to be dry.</li> <li>2. Dust impact due to the haulage of excavated materials at the South Portal.</li> </ol> <p>Enhanced dust suppression measures had been implemented by the Contractor:</p> <ul style="list-style-type: none"> <li>• added rockfill to the haul road between South Portal Tunnel and the Gully fill area;</li> <li>• maintained watering to haul road at Slope BV-S2;</li> <li>• requested the fill material supplier to ensure the material was in a damp condition before leaving quarry;</li> <li>• provided for material not dampened at the Quarry to be directed to the wheel wash for water spray before entering the site;</li> <li>• when cleaning drill holes along slope BV-S4 to ensure adequate water was available for flushing to suppress dust emission; AND</li> <li>• provided damper stockpiles of cleared material at BV-S2 before loading.</li> </ul> <p>Based on ER's site observations, most of the above mitigation measures have been implementing by the Contractor. Also, an additional water browser was delivered to site on 29<sup>th</sup> Oct 04. No significant fugitive dust emission has been found.</p> <p>During ET's site inspections on 27<sup>th</sup> Oct and 3<sup>rd</sup> Nov 2004, the situation was found improved. No deficiency relating to air quality impact was noted by ET during the two audit sessions.</p> <p>The results of air quality monitoring (1-hr and 24-hr TSP) in the period between 21<sup>st</sup> Oct and 2<sup>nd</sup> Nov 2004 were all found to be complied with the Action / Limit Levels.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
41124	Government Quarters (Butterfly Valley)	21-Nov-04 (by LKJV)  24-Nov-04 (by ET Leader)	A public complaint was received by the Contractor of Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) Project on 21 <sup>st</sup> November 2004 (Sunday). The complaint was concerned about excessive noise generation from construction machinery at Butterfly Valley on the same day. The Engineer’s Representative (ER) subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 24 <sup>th</sup> November 2004.	According to the ER, the only construction activity at Butterfly Valley undertaken on 21 <sup>st</sup> Nov 04 was formation of access road near Slope BV-S2. The activity only involved operations of 1 no. of excavator and 1 no. of dump truck with grab, which complied with the condition stipulated in a valid CNP GW-RW0484-04, which was hold by the Contractor.  Routine noise monitoring was conducted on 21 <sup>st</sup> and 28 <sup>th</sup> Nov 2004 at NM6. All the measured noise levels (48.5 to 56.4 dB(A)) were well below the noise limit level. In addition, the measurement results were within the baseline noise level.  Therefore, the complaint was considered to be invalid. Nevertheless, the Contractor was reminded to ensure the compliance of the conditions stipulated in CNP. The Contractor was also recommended to adopt good site practice in order to minimize the construction noise.	Closed
41201	Government Quarters (Butterfly Valley)	01-Dec-04 (by MHJV & ET Leader)	A public complaint was received by the Engineer’s Representative (ER) of Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) Project on 1 <sup>st</sup> December 2004. The complaint was raised by a resident of the Government Quarters at Caldecott Road, concerning dust generation at Butterfly Valley. The Environmental Team (ET) of the Project was informed with the complaint on the same day.  The resident complained that a large portion of the excavated slopes was not properly covered, which caused dust nuisance to her.	The complaint was considered valid based on: 1. ER’s site observations; 2. ET’s weekly site audit  Upon receipt of the complaint, a series dust control measures had been implemented by the Contractor, such as covering of the exposed slopes with appropriate sheeting, regular watering to the haul roads and excavated slope faces, etc.  During the ET’s weekly site audit on 08-Dec-04 together with the representative of HyD, IEC, ER and the Contractor, the above mitigation measures were observed. The idle slopes at BVS2 had been covered by tarpaulin sheeting and erosion mat. The left exposed slope surfaces at BVS2 were under excavation, thus being unable to be covered.  According to the ER, the complainant has expressed his satisfaction to the site condition on 07-Dec-04, after the implementation of dust mitigation measures by the	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p>Contractor.</p> <p>However, owing to the prevailing of the dry season, the Contractor was reminded to ensure the dust control measures are effectively implemented.</p>	
50125	Garden Villa (North Portal)	<p>21-Jan-05 (by EPD)</p> <p>25-Jan-05 (by ET Leader)</p>	<p>Environmental Protection Department (EPD) received a public noise complaint on 21 January 2005 about construction noise and dust generated from the Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) Project, nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 25 January 2005.</p> <p>The complaint was about construction noise and dust generated from a construction site nearby Garden Villa at Tai Po Road, Sha Tin. The complainant was particularly concerned of two issues:</p> <ol style="list-style-type: none"> <li>1. Noise from tunnel blasting work carrying out at around 7:30am and 10:00pm; and</li> <li>2. Dump trucks without covering of canvas when leaving the construction site.</li> </ol>	<p><b>Noise from blasting</b> For carrying out the blasting, the Contractor had obtained the permit from relevant authority. The ET’s noise monitoring results did not show any exceedance for the measurement taken when blasting was in place. It should be highlighted that for carrying out blasting works, permission should be obtained by Mines Division of CEDD, but not under the control of EPD. In order to minimize the nuisance from the works, the Contractor was recommended:</p> <ul style="list-style-type: none"> <li>• To inform the residents around the area about the time of blasting in advance; and</li> <li>• To re-schedule the blasting time table, if possible, in order to avoid nuisance.</li> </ul> <p><b>Uncovered dump trucks</b> In order to evaluate the situation, two inspections were carried out by the ET at Garden Villa on 27-Jan and 28-Jan-05 to identify the dump trucks leaving the site with uncovered load. On 27-Jan-05, 3 nos. of trucks, which were working for ENT Project, was noted by-passing Garden Villa without proper cover.</p> <p>Enhanced control (penalty system) was implemented by the Contractor after the inspection on 27-Jan. During the inspection on 28-Jan-05, 24 nos. of dump trucks for ENT Project were found leaving the site. No non-compliance was noted for the trucks working for ENT Project.</p> <p>LKJV was reminded to keep closely monitoring on the condition and the effectiveness of the proposed control measures.</p>	Closed



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50308	Garden Villa (North Portal)	05-Mar-05 (by EPD)  08-Mar-05 (by ET Leader)	<p>EPD received a public complaint on 5 March 2005 about construction noise and dust generated from the construction sites of Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) and Route 8 - Sha Tin Heights Tunnel and Approaches (R8-SHT), nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 8 March 2005.</p> <p>The complaint was about construction noise and dust generated from the construction sites nearby Garden Villa at Tai Po Road, Sha Tin. The complainant was particularly concerned of the following issues:</p> <ol style="list-style-type: none"> <li>1. Nighttime &amp; Sunday construction noise</li> <li>2. Noise from tunnel blasting at early morning and nighttime</li> <li>3. Dust from construction activities</li> </ol>	<p><i>Nighttime &amp; Sunday construction noise</i></p> <ul style="list-style-type: none"> <li>• no exceedance for noise monitoring</li> <li>• restricted hour works were found complied with the CNPs</li> <li>• records of vehicular trips on TAR1 did not show non-compliance of CNP conditions</li> </ul> <p><i>Noise from tunnel blasting at early morning and nighttime</i></p> <ul style="list-style-type: none"> <li>• no exceedance for noise monitoring</li> <li>• valid blasting permit had been obtained from CEDD</li> <li>• blasting work is not under the jurisdiction of EPD</li> </ul> <p><i>Dust from construction activities</i></p> <ul style="list-style-type: none"> <li>• dump trucks with uncovered / inadequately covered materials were observed leaving site</li> <li>• no exceedance for TSP monitoring</li> <li>• enhanced dust suppression measures had been implemented by the Contractor</li> </ul> <p><u>Conclusions</u> The complaint against the dust issue (uncovered / inadequately covered dump trucks) was considered justifiable. The Contractor was reminded to review the current checking system. Continuous spot checks would be performed by ET and RSS.</p>	Closed
50330	Garden Villa (TAR1)	30-Mar-05 (by EPD & ET Leader)	<p>Environmental Protection Department (EPD) received a public complaint on 30<sup>th</sup> March 2005 about construction noise from the sites of Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) near Garden Villa at Tai Po Road, Sha Tin.</p> <p>The complaint, which was lodged by a resident of Garden Villa on 29<sup>th</sup> March 2005, was about the noise generated by heavy vehicles traveling in and out of the construction site near Garden Villa. According to the complaint, the noise was made from 7am onwards.</p>	<p>The site of concern was likely to be the Temporary Access Road no.1 (TAR1) connecting Tai Po Road and the construction sites of R8-ENT and Route 8 - Sha Tin Heights Tunnel and Approaches (R8-SHT).</p> <p>The time period of concern was within normal working hours (7am to 7pm) on a weekday not being holidays. According to the EM&amp;A Manual, the criterion of construction noise in term of <math>L_{eq-30min}</math> within this period is 75 dB(A) for domestic premises.</p> <p>Since the commencement of the Project, no exceedance of daytime noise criterion of 75 dB(A) was recorded at Station AM3 (Garden Villa). During the 2-hour measurement period of the ad-hoc monitoring (0700-0900 hrs), all the measured noise levels (<math>L_{eq-30min}</math>) were below the daytime noise</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p>critterion of 75 dB(A).</p> <p>Based on the results of routine noise monitoring and the ad-hoc measurement on 1<sup>st</sup> April 2005 at Garden Villa, no exceedance of daytime noise criterion of 75 dB(A) was recorded. The complaint lodged is therefore considered not justifiable.</p> <p>In order to minimize the nuisance generated by the vehicle use at Garden Villa, the Contractor has proposed to limit the frequency of trucks existing from TAR1 at a rate of one truck per minute during the time period of concern (7am to 8:30am).</p>	
50415	Government Quarters	<p>09-Apr-05 (by EPD)</p> <p>15-Apr-05 (by ET Leader)</p>	<p>The complaint, which was lodged by a resident of 7/F, 38B, 8-10 Caldecott Road (Governmental Quarters) on 9<sup>th</sup> April 2005, was about the noise generated by the construction works at the Butterfly Valley during daytime. The complainant mentioned that the instant noise level taken by himself was 78 to 82 dB(A).</p> <p>EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 15<sup>th</sup> April 2005.</p> <p>The time period of concern was within normal working hours (7am to 7pm) on a weekday not being public holidays. According to the EM&amp;A Manual, the criterion of construction noise in term of L<sub>eq</sub>-30min within this period is 75 dB(A) for domestic premises.</p>	<p>Governmental Quarters (Station NM6) is one of the designated noise monitoring stations in the EM&amp;A programme. Routine monitoring is undertaken on a weekly basis in accordance with the EM&amp;A Manual.</p> <p>Since the commencement of the Project, no exceedance of daytime noise criterion of 75 dB(A) was recorded at this station.</p> <p>Ad-hoc measurement was conducted at the complainant's premises on 22 Apr 05. The measured noise level was 69.0 dB(A), which was well below the daytime noise criterion of 75 dB(A).</p> <p>Based on the results of routine noise monitoring and the ad-hoc measurements conducted in the complainant premises, no exceedance of daytime noise criterion of 75 dB(A) was recorded. The complaint lodged is therefore considered not justifiable.</p>	Closed

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50419	Government Quarters	<p>15-Apr-05 (by EPD)</p> <p>19-Apr-05 (by ET Leader)</p>	<p>The complaint was lodged by a resident of 8-10 Caldecott Road (Government Quarters) on 15<sup>th</sup> April 2005 to EPD as well as the Chief Resident Engineer of the Project.</p> <p>EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 19<sup>th</sup> April 2005.</p> <p>The complainant mentioned that they had experienced quite a lot of noise emanating from the tunnel drilling area after 11pm over several nights and most particularly at the night of 14<sup>th</sup> April 2005 and at 4am on 15<sup>th</sup> April 2005.</p>	<p>The site of concern was likely to be the South Portal. For carrying out construction works at this area during restricted hours, two Construction Noise Permits (CNPs no. GW-RW0085-05 and GW-RW0086-06) were obtained by the Contractor in accordance with the requirements stipulated in Noise Control Ordinance.</p> <p>According to the information provided by the Resident Site Staff and the Contractor, the construction activities undertaken in the period between 11<sup>th</sup> and 15<sup>th</sup> April 2005 from 1900 to 0700 hours included drilling, breaking, trimming, set up of rock drill, installation of arch-rib and grouting.</p> <p>The powered mechanical equipment (PME) involved in the above works included backhoe, rock drill, loader, dumper, shot-crete machine, group pump, mobile platform and grout machine, which were covered by the CNPs.</p> <p>According to the routine monitoring results, for the time period between 2300-0700 hours, the measured noise levels exceeded the corresponding noise Limit Level of 50dB(A). However, the measured levels were found within the range of baseline level and below the average baseline level.</p> <p>Based on the routine noise monitoring results at Station NM6, the measured noise levels for the period between 2300-0700 hours were below the baseline noise level, which was comparable to the ambient level. According to the RSS's record, the PME items operated during the concerned period were found covered by the 2 CNPs hold by the Contractor.</p> <p>Based on the available information, there is not enough evidence to prove whether the complaint against nighttime construction noise generated in the concerned period (11<sup>th</sup> to 15<sup>th</sup> April 2005) is justifiable or not.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50512	Yew Chung International School	12-May-05	<p>On 11 May 05, a notice was sent to Yew Chung International School (YCIS) by the Contractor, providing their tentative blasting schedule on 12 May 05. It was shown that one of the blasting operations was scheduled at 09:30am, at when an examination was being held in YCIS.</p> <p>Upon receipt of the notice, a representative of YCIS lodged a complaint to the Contractor via the Project's hotline at 07:40 on 12 May 2005. The complainant expressed her objection to the blasting operation taken at 09:30am when the examination was taken place.</p> <p>The Contractor then agreed on one occasion only to delay the tunnel blast planned for 9:30am until 9:50am (i.e. 5 min after the examination). The complainant satisfied but did expect no future blasting during the examination period. According to the Engineer's Representative, the Contractor did not wish to make any commitment to ensure no blasting would be taken within the examination period.</p>	<p>A 1-day continuous noise measurement was conducted by the Environmental Team at Station NM1 on 26 May 05. According to the ER's record, two blasting operations were taken in the vicinity of YCIS on 26 May 05. One surface blast was taken at Butterfly Valley at 15:42 and one tunnel blasting was taken at South Portal at 16:56.</p> <p>The measurement results showed that the noise impact in term of Leq-5min and Leq-30min arising from the blasting operations was insignificant. No exceedance of construction noise criterion for examination period was recorded (Leq-30min &lt; 65dB(A)).</p> <p>The complaint lodged was therefore considered not justifiable.</p> <p>However, in order to minimize the potential nuisance arising from the blasting noise and the siren sounds prior to blasting, the Contractor was recommended to consider scheduling the blasting operations beyond the examination periods.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50610	Government Quarters	10-Jun-05	<p>On 10 June 2005, the Resident Site Staff (Maunsell-Hyder Joint Venture) received a complaint from a resident of the Government Quarters at Caldecott Road. The complaint was concerned about the construction dust generation as a result of the construction activities of the Project at Butterfly Valley.</p> <p>The complainant had not specified which construction activities had contributed to the dust generation.</p>	<p><i>Site Observations</i></p> <p>According to the RSS's preliminary investigation, it was considered that soil nailing at Slope BV-S2 was the dominant dust source and was likely to be the activity of concern. The dust suppression measures taken were found inadequate to control the dust dispersion from the works. Noticeable dust dispersion from the soil nailing work could be observed.</p> <p><i>Corrective Actions</i></p> <p>After the Contractor was notified by the RSS of the complaint, immediate action was taken by the Contractor on the same day (10 June 2005).</p> <p>The dust mitigation measures for the soil nailing were enhanced. An additional thicker cover was used. Also, continuous water spray was applied to suppress the dust emission.</p> <p><i>Environmental Outcome</i></p> <p>The RSS made a response to the complainant on 10 June 2005. The complainant was informed of the rectification actions taken by the Contractor. No further adverse comment was received from the complainant.</p> <p><i>Conclusions</i></p> <p>Based on the RSS's information, this complaint is considered to be valid and related to the construction activities of the Project. However, corrective action had been taken by the Contractor immediately and the situation was found improved.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50712	A scattered house near South Portal and Tai Po Road Water Treatment Works Staff Quarters	12-Jul-05	<p>On 12 July 2005, a resident, whose house is located near South Portal and Tai Po Road Water Treatment Works Staff Quarters, lodged a complaint to the Contractor via the Project's hotline at 11:40am. The complainant expressed his concern on the nuisance caused by the blasting works at early morning (before 07:00 hours) and late night (after 23:00 hours).</p>	<p><i>Site Activity</i></p> <p>According to the information provided by the RSS, tunnel blasting works have been taken place in the concerned period in north bound tunnel from the Ventilation Adit towards the direction of the South Portal.</p> <p><i>Environmental Requirements</i></p> <p>In the EP, the EM&amp;A Manual of the Project and the NCO, no requirement is specified for the control of blasting operation and the associated environmental impact, such as blasting noise.</p> <p>It should be highlighted that for carrying out blasting works, permission should be obtained by Mines Division of CEDD, but not under the jurisdiction of EPD.</p> <p>For carrying out the above-mentioned blasting operations, the Contractor has obtained a valid blasting permit from CEDD under the Dangerous Goods Ordinance (Cap. 295). Under this permit, the Contractor is allowed to carry out 24-hour blasting works within the designated area.</p> <p><i>Contractor's Actions</i></p> <p>Though the blasting noise is not under the control of any environmental related regulation and the Contractor is allowed to carry out 24-hour blasting, the Contractor would try to keep the blasts of concern undertaken between 07:00 to 23:00 hours. This arrangement could effectively reduce the potential nuisance to the residents within the more sensitive time period (23:00 to 07:00 on next day).</p> <p><i>Conclusions</i></p> <p>The subjected blasting operations were carried out by the Contractor under a valid blasting permit. The complaint lodged is therefore considered not justifiable.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50809	Government Quarters (8-10 Caldecott Road)	09-Aug-05	<p>On 9 August 2005, a resident of 8-10 Caldecott Road (Government Quarters) lodged a complaint to the Contractor via the Project's hotline at 14:30. The complainant expressed her concern on the nuisance caused by the blasting works undertaken at Butterfly Valley.</p> <p>Noise impact arising from the blasting works was one of the issues raised by the complainant.</p>	<p><i>Ad-hoc Noise Measurement</i></p> <p>An ad-hoc noise measurement was carried out on the roof of Government Quarters during a surface blast on 16 August 2005. According to the record of the RSS and the site observation, a surface blasting was undertaken at Butterfly Valley at around 15:38 on the monitoring day.</p> <p>The results show that the measured noise level in term of Leq-30min, i.e. 69.1 dB(A) during the surface blasting was well below the daytime construction noise criterion of 75 dB(A).</p> <p><i>Conclusion and Recommendation</i></p> <p>According to the results of ad-hoc noise measurement taken at Government Quarters on 16 August 2005, the measured noise levels (Leq-30min) did not exceed the noise criterion of 75 dB(A). In addition, the subjected blasting operations were carried out by the Contractor under a valid blasting permit. For the concern of noise impact, the complaint was considered not justifiable.</p>	Closed
50830	Government Quarters (8-10 Caldecott Road)	30-Aug-05	<p>The RSS received a public complaint from a resident of Government Quarters addressing two noise issues:</p> <ol style="list-style-type: none"> <li>1. Noise nuisance caused by drilling works at Butterfly Valley;</li> <li>2. Noise nuisance due to blasting 0045 hrs of 28 August 2005.</li> </ol>	<p><i>Noise Measurement</i></p> <p>No exceedance was recorded for the routine noise monitoring at NM6 (Government Quarters). Ad-hoc noise measurement was conducted on 1 and 2 Sept 05. All measured noise levels complied with the noise criteria.</p> <p><i>Conclusion</i></p> <p>The complaint was considered not justifiable. However, the Contractor had taken proactive actions in order to minimize the nuisance of the residents, (1) to stop the rock breaking works at BVS2 and (2) to install temporary noise barriers for drilling works.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50928	Government Quarters (8-10 Caldecott Road)	28-Sept-05	A resident of Government Quarters complaint about a blast undertaken at 0215hr on 28 Sept 05.	<p><i>Environmental Monitoring</i></p> <p>After receiving the complaint, the ET carried out a continuous noise measurement at Station NM6 (Government Quarters) from 29 to 30 September 2005. All the measured noise levels in term of Leq-5min are close to the baseline noise level. The noise levels after correction of baseline levels were all below the noise criterion of 50 dB(A).</p> <p><i>Conclusion</i></p> <p>The subjected blasting operations were carried out by the Contractor under a valid blasting permit. In addition, no noise exceedance was recorded for the ad-hoc noise monitoring. The complaint lodged is therefore considered not justifiable.</p>	Closed
51025	Caldecott Hill (2 Caldecott Road)	25-Oct-05	<p>A public complaint was received by the MWPMO of Highways Department on 25 October 2005. The complaint was subsequently refereed to the RSS and Environmental Team of Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) Project.</p> <p>The complaint was lodged by the management company of Caldecott Hill (No.2 Caldecott Road). It was about dust generation when construction vehicles, particularly dump trucks and concrete trucks, traveling along the Water Treatment Works (WTW) access road and its junction with Caldecott Road.</p> <p>According to the photos provided by the complainant, noticeable dust generation was observed during construction vehicles movement on the roads of concern.</p>	<p><i>Site Observations</i></p> <p>Ad-hoc site inspections were carried out on 25 and 26 Oct 05. On 26 Oct 05, the WTW access road was observed dry. Deposition of dusty materials was noted. Significant dust generation was identified during vehicle movement.</p> <p><i>Contractor’s Actions</i></p> <p>Mitigation actions were taken by the Contractor:</p> <ol style="list-style-type: none"> <li>1. One labour was appointed to water spray the concerned road junction and clear up of dusty materials deposited on the WTW access road.</li> <li>2. Regular watering on access road by hose pipe was performed to keep the road wet.</li> <li>3. All vehicles would be wheel-washed and loads of dusty materials would be covered before leaving the site.</li> </ol> <p><i>Conclusions</i></p> <p>Based on the site observations, this complaint was considered to be valid and related to the Project works. However, enhanced dust mitigation measures were taken by the Contractor and the situation was found improved.</p>	Closed



Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
51031	Po Leung Kuk Choi Kai Yau School	31-Oct-05	The resident site staff (MHJV) of R8-ENT received a complaint from the Principal of PLKCKY School. She commented that the blasting noise (nighttime and daytime) at Butterfly Valley became louder than before.	An ad-hoc noise measurement was taken by ET on 5 Nov 05 to evaluate the noise impact due to daytime surface blasting at the BV. The measurement results revealed that there has been no exceedance of noise level criteria.  The complaint was therefore considered not justifiable.	Closed
51101	Butterfly Valley (Government Quarters)	1-Nov-05	<p>On 1 Nov 05, the Resident Site Staff received a complaint from a resident of the Government Quarters. On 2 Nov 05, a complaint of similar natures and same location was received by the Environmental Protection Department.</p> <p>The complainant was concerned about the following environmental issues:</p> <ol style="list-style-type: none"> <li>Noise nuisance due to tunnel blasting works undertaken at midnights and in early mornings (3am to 5am);</li> <li>Noise nuisance due to operation of a generator after 11pm;</li> <li>Construction dust and daytime noise due to processing and stockpiling of crushed rocks at Butterfly Valley;</li> <li>Noise nuisance due to works outside tunnel in the early morning of 2 Nov 05.</li> </ol>	<p><u>Item 1: Noise nuisance due to tunnel blasting</u> For carrying out the above-mentioned blasting operations, the Contractor has obtained a valid blasting permit from CEDD. Under this permit, the Contractor is allowed to carry out 24-hour blasting works. As advised by the Contractor, all the blasting operations had been completed by 12 Nov 05.</p> <p><u>Item 2: Noise due to operation of a generator after 11pm</u> According to the Construction Noise Permit issued by EPD, one generator was allowed to be operated after 11pm at South Portal area outside the tunnel. In view of the provision of acoustic enclosure and the separation distance from the generator to Government Quarters (around 300m), the noise impact arising from this generator onto the residents of the Quarters was believed to be insignificant. During the ET's investigation on 11 Nov 05, no engine-like noise generated from the construction site could be identified.</p> <p><u>Item 3: Dust and noise due to handling of crushed rocks</u> No noise exceedance was recorded. During the weekly site inspections, deficiencies regarding inadequate dust mitigation measures for the crushed rock processing and stockpiling were occasionally observed. Dry / uncovered stockpiles and dust emissions from crushed rocks handling were sometimes noted.</p> <p><u>Item 4: Noise from works out of tunnel in morning of 2 Nov 05</u> According to the RSS's site records, there has been no activity outside the tunnel in the early morning of 2 November 2005. Work was undertaken deep inside the tunnel during the concerned period. The mentioned noise nuisance might not be related to R8-ENT Project. An ad-hoc noise measurement was carried out by ET from 8 to 10 November 2005 in order to evaluate the noise at Quarter's residents and no exceedance was recorded.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p><u>Conclusion</u></p> <p>Based on the information obtained, environmental monitoring results and site observations, this complaint was considered not justifiable, except for the concern of dust nuisance due to crushed rock processing.</p>	
51205	Caldecott Road junction	5-Dec-05	<p>The complaint was lodged by the management company of Villa Carlton. The complainant mentioned that several complaints from the occupants of Villa Carlton were received, against the dust emission when they drove to Kowloon via the Caldecott Road Junction. She also considered that the amount of water spraying by the Contractor was insufficient to suppress dust emission at Caldecott Road Junction.</p>	<p><u>Complaint Record</u></p> <p>A similar complaint (Log no. 51025) was received on 25 Oct 05 from Caldecott Hill. Significant dust emission was noted when construction vehicles traveling along the WTW access road and its junction with Caldecott Road.</p> <p>With implementation of enhanced dust mitigation measures, the situation was found improved and satisfactory.</p> <p><u>Site Observations</u></p> <p>Since Nov 05, in order to observe the Contractor's actions taken for the above-mentioned complaint, the area of interest was included during the weekly environmental audit. No deficiency had been noted at this area during the audit.</p> <p>After receiving this new complaint (Log no.51205), several ad-hoc site inspections were carried out on 6, 8 and 14 Dec 05. In addition, the RSS of the Project had carried out daily checking of the condition of the Caldecott Road Junction.</p> <p>Sufficient dust mitigation measures had been implemented by the Contractor. The condition was found satisfactory. Therefore, this complaint was considered not justifiable.</p> <p>However, it is noted that the Contractor had stepped up dust mitigation measures to further improve the condition at Caldecott Road junction.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
60204	Garden Villa	4-Jan-06 (by ETL)	<p>A public complaint was received by the Environmental Protection Department on 3 January 2006. The complaint was subsequently referred to the Environmental Team of Route 8 – Eagle’s Nest Tunnel and Associated Works (R8-ENT) Project on 4 January 2006.</p> <p>According to EPD’s information, the complaint was lodged by a complainant, who walked along Tai Po Road on 1-2 January 2006. The following information was given by EPD for our investigation:</p> <ul style="list-style-type: none"> <li>• Time of concern: 1-2 January 2006 (Daytime)</li> <li>• Suspected site area of concern: ENT’s Toll Plaza and Administration Building.</li> <li>• Dust and noise nuisance was noted by the complainant when he passed Garden Villa.</li> <li>• Noise from wood saw and crane or alike was noted.</li> </ul>	<p><b>A. Construction Noise Impact</b></p> <p>According to the Contractor’s information, construction activities were carried out on 1 and 2 Jan 06, including:</p> <ul style="list-style-type: none"> <li>• Erection and dismantling of formwork</li> <li>• Fixing water pipe</li> </ul> <p>All the equipment operated by the Contractor on 1-2 Jan 06 complied with the permissible equipment stated in the CNP.</p> <p>On 1 Jan 06, noise monitoring was carried out. All the results complied with the noise criterion.</p> <p><b>B. Construction Dust Impact</b></p> <p>Erection and dismantling of formwork and fixing water pipe were considered not dust emissive in nature.</p> <p>For stockpiles of materials in Toll Plaza area, dust mitigation measures had been implementing by the Contractor. The condition in term of dust control was found satisfactory during the audit sessions on 4 and 11 Jan 06.</p> <p>Since December 2005, all TSP monitoring results complied with the Action / Limit Level.</p> <p><b>Conclusion</b></p> <p>Based on the information given, site observations and environmental monitoring results, this complaint was considered not justifiable.</p> <p>Nevertheless, the Contractor was reminded to adopt good site practice to minimize the environmental impacts at the nearby sensitive receivers</p>	Closed