

## Highways Department

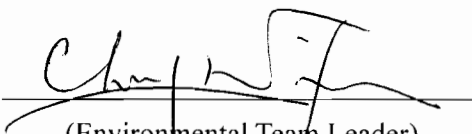
### Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin

### Contract No. HY/2003/10 - Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel

#### Quarterly EM&A Report Part II – Eagle's Nest Tunnel and Associated Works (Version 1.0)

June to August 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.

### CINOTECH CONSULTANTS LTD

Room 1602-1610, Delta House,  
3 On Yiu Street,

Shatin, NT, Hong Kong

Tel: (852) 2151 2083 Fax: (852) 3107 1388

Email: [info@cinotech.com.hk](mailto:info@cinotech.com.hk)

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## EXECUTIVE SUMMARY

- This is the 15<sup>th</sup> Quarterly 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 summary report documents the findings of EM&A works performed in the period between June and August 2007 for Contract No. HY/2003/02, Route 8 – Eagle’s Nest Tunnel and Associated Works (the Project).
  
- The major site activities undertaken in the reporting quarter included:
  - Door & Hand Rail Installation;
  - Tunnel Ventilation System and T&C;
  - Plumbing & Drainage;
  - Slope Stabilization;
  - Construction of Car Park Shelter no. 2-4;
  - DN200 watermain diversion.
  - Drainage Works & Road works
  - Utility; and
  - Earth works.
  
- The major site activities for Traffic Control and Surveillance System (TCSS) works undertaken in the reporting quarter included:
  - Cable Laying;
  - Field Equipment Installation;
  - System Equipment Installation;
  - Antenna Installation; and
  - SCT and SAT. TCSS Cabinet Installation;
  - Equipment Cabinet Installation
  - Control Containment Installation;
  - PA Installation; and
  - Emergency Telephone Installation.

### **Environmental Monitoring Works**

- Environmental monitoring for the Project was performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. Environmental 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 the events and action taken in the reporting quarter is tabulated in **Table I**.

**Table I Summary Table for Events Recorded in the Reporting Quarter**

<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>		
<i>June 2007</i>				
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	0	0	0	N/A
<i>July 2007</i>				
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	0	0	0	N/A
<i>August 2007</i>				
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	0	0	0	N/A

**Environmental Licensing and Permitting**

- Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Construction Noise Permits (CNPs) and Water Discharge Licenses (WDLs). The Contractor had also registered as a Chemical Waste Producer.

**Key Information in the Reporting Quarter**

- Summary of key information in the reporting quarter is tabulated in **Table II**.

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

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	---
<p><b><u>Future Key Issues:</u></b></p> <p>Major site activities for civil works in the coming months include:</p> <ul style="list-style-type: none"> <li>• Cladding , Hand Rail and Toll Collection System Installation;</li> <li>• Tunnel Ventilation System (T&amp;C);</li> <li>• Plumbing &amp; Drainage;</li> <li>• Slope Stabilization;</li> <li>• Mechanical Ventilation Air Conditioning and T&amp;C;</li> <li>• Road works; and</li> <li>• Metal curtain wall</li> <li>• Metal meshing</li> <li>• Haul road diversion</li> <li>• Painting (parapet wall)</li> <li>• Earth 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>• System Equipment Installation;</li> <li>• Antenna Installation; and</li> <li>• SCT and SAT.</li> </ul> <p>The anticipated environmental issues will be mainly on surface runoff during rainy season, dust from slope work, haul roads and stockpiles, and noise impact from road works.</p>					

## 1. INTRODUCTION

- 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 will act 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. 449) (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 in 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. A revised EP No. EP-103/2001/A was 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 in 15<sup>th</sup> December 2003 for completion in April 2007.
- 1.7 "Route 9" was recently re-titled 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 was appointed as the ET Leader under Condition 2.2 of the EP. Mr. Kenneth LUK of CH2M HILL Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the 15<sup>th</sup> quarterly EM&A report summarizing the EM&A works for the ENT Project between June and August 2007.



## 2 PROJECT CHARACTERISTICS

### Project Organization and Contacts of Key Management

- 2.1 An organization structure and the line of communication were set up for the Project between the Project Proponent, Engineer's Representative (ER), Independent Environmental Checker (IEC), the Contractor and Environmental Team (ET). The organization chart and contact details are shown in **Appendix A** and **Figure 2**.

### Construction Programme and Synopsis of Work

- 2.2 The construction programme is presented in **Appendix B**.

- 2.3 The site activities for Civil Works undertaken in the reporting quarter included:

#### *ENT Tunnel*

- VE panel, E&M cabling, T&C for Tunnel Ventilation System, fire services, , Road Work for N/B Tunnel and T&C for equipment

#### *Butterfly Valley*

- Road and drainage works, haul road diversion, diverted DN200, recreated stream, slope stabilization (e.g. hydro mulching stone pitching), gabion wall, step/u-channel and irrigation pipe & system.

#### *South Portal Building*

- Door & hand rail installation, Tunnel Ventilation System, Mechanical Ventilation air conditioning, T&C for equipment, aluminum cladding installation, plumbing & drainage and fire services.

#### *North Portal Building*

- Door & hand rail installation, plumbing & drainage, Tunnel Ventilation System and T&C, Mechanical Ventilation air conditioning and T&C, fire services, and T&C for equipment.

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

- Road works (including EVA Road & Loop Road No.2), Footbridge (metal cladding), construction of car park shelter no.2- 4 (concrete pavement), tiles (external wall & internal floor), false ceiling, Mechanical Ventilation air conditioning, plumbing & drainage, T&C for equipment, lift installation, fire services, skirting and rubber & vinyl flooring, and installation of toll collection system.

#### *Ventilation Building & Tai Po Road*

- Drainage works, utility, Mechanical Ventilation air conditioning, Tunnel Ventilation System, T&C for equipment, earth works, fire services and plumbing & drainage.

*SHT – South Portal Building*

- Screeding, hand rail installation, fire services, Mechanical Ventilation air conditioning, Tunnel Ventilation System, plumbing & drainage and T&C for equipment.

*SHT – North Portal Building*

- Screeding, hand rail installation, Mechanical Ventilation air conditioning, Tunnel Ventilation System, fire services, T&C for equipment and plumbing & drainage.

*SHT Tunnel & Remaining SHT/T3 Area*

- Lighting installation, fire services, Tunnel Ventilation System, and cabling works.

## 2.4 The site activities for TCSS works undertaken in the reporting quarter included:

- Cable laying, field equipment installation, TCSS cabinet installation, emergency telephone installation at Tunnel and SCT & SAT at Tunnel
- Cable laying, field equipment installation, TCSS cabinet installation and SCT & SAT at Butterfly Valley
- Cable laying, equipment cabinets installation, control equipment at Kiosk K3, K4
- Cable laying, system equipment installation, equipment cabinets installation, control equipment and SCT & SAT at Kiosk K3, K4
- Cable laying, equipment cabinets installation, antenna installation, PA installation, system equipment installation and SCT & SAT at South Portal Building
- Cable laying, equipment cabinets installation, antenna installation, PA installation, system equipment installation and SCT & SAT at North Portal Building
- Cable laying, field equipment installation, PA installation and SCT & SAT at Toll Plaza
- Cable laying, field equipment installation, equipment cabinets installation, antenna pole installation, PA installation and SCT & SAT at Administration Building
- Cable laying, equipment cabinets installation, antenna pole installation, PA installation, Antenna Installation and SCT & SAT at Ventilation Building

### **3 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS**

#### **Monitoring Parameters and Monitoring Locations**

- 3.1 The EM&A Manual designated locations for the ET to monitor environmental impacts in terms of noise and air quality due to the Project. The monitoring locations are depicted in **Figures 1a** and **1b**. **Appendix C** gives details of monitoring requirements.

#### **Monitoring Methodology and Calibration Details**

- 3.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

#### **Environmental Quality Performance Limits (Action and Limit Levels)**

- 3.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective Event Action Plans would be implemented. The Action/Limit Levels for each environmental parameter are provided in **Appendix D**.

#### **Environmental Mitigation Measures**

- 3.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manuals for the Contractor to implement. A list of mitigation measures is given in **Appendix G**.

## 4 MONITORING RESULTS

### Weather Conditions

- 4.1 The weather during monitoring sessions was mainly sunny and fine. The weather conditions for each individual monitoring session were presented in the field record sheets.

### Air Quality

#### *1-hr TSP Monitoring*

- 4.2 All 1-hour TSP monitoring was conducted as scheduled during the reporting quarter.
- 4.3 No Action/Limit Level exceedance was recorded in this reporting quarter.

#### *24-hr TSP Monitoring*

- 4.4 All 24-hr TSP monitoring was conducted as scheduled in this reporting quarter.
- 4.5 No Action / Limit Level exceedance was recorded in the reporting quarter.
- 4.6 The monitoring data of 1-hr and 24-hr TSP Levels are attached in the appendices of the Monthly Reports for June to August 2007. The graphical presentations of the monitoring results are shown in **Appendix E**.

### Construction Noise

- 4.7 Noise monitoring was performed at the four designated locations during the daytime period (0700-1900 hours) on normal as scheduled in this reporting quarter. Restricted-hour monitoring was also conducted at NM5, NM6 and NM7.
- 4.8 No Action/Limit Level exceedance was recorded in the reporting quarter.
- 4.9 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = Measured CNL), in order to facilitate the interpretation of the noise exceedance.
- 4.10 The monitoring data of construction noise are attached in the appendices of the Monthly Reports for June to August 2007. The graphical presentations of the monitoring results are shown in **Appendix F**.
- 4.11 Construction noise exceedances recorded in the reporting quarter and the associated actions taken are summarized in **Appendix J**.

## 5 ENVIRONMENTAL AUDIT

### Implementation Status of Environmental Mitigation Measures

5.1 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 Environmental Mitigation Implementation Status (EMIS) is provided in **Appendix G**.

### Site Audit Summary

5.2 ET's weekly site audits for Civil works were conducted on 6<sup>th</sup>, 12<sup>th</sup>, 20<sup>th</sup> and 27<sup>th</sup> June 2007, 3<sup>rd</sup>, 11<sup>th</sup>, 18<sup>th</sup> and 25<sup>th</sup> July 2007, 1<sup>st</sup>, 8<sup>th</sup>, 15<sup>th</sup>, 22<sup>nd</sup> and 29<sup>th</sup> August 2007.

5.3 The joint site audit for Civil works was conducted on 3<sup>rd</sup> July 2007 and 1<sup>st</sup> August 2007 with representatives from HyD, IEC, ER, the Contractor and ET. The TCSS works was conducted on 3<sup>rd</sup> July 2007 and 2<sup>nd</sup> August 2007 with representatives from HyD, IEC, ER, the Contractor and ET.

5.4

5.5 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations are summarized in **Table 5.1**.

**Table 5.1 Observations and Recommendations of the Site Audits**

Parameters	Date	Observations / Recommendations	Remedial Actions
<i>Water Quality</i>	03/07/07	<i>Observation</i> - Breeding mosquito was observed near Ventilation Building. The Contractor was recommended to remove the standing water.	Rectification / improvement was observed during the follow-up site inspection.
	18/07/07	<i>Reminder</i> - Standing water was observed near Mui Kong Tsuen. The Contractor was recommended to clear it.	Rectification / improvement was observed during the follow-up site inspection.
	25/07/07	<i>Observation</i> - Silt was observed along the side of ENT service road at Mui Kong Tsuen. The Contractor was advised to clear it.	Rectification / improvement was observed during the follow-up site inspection.
	22/08/07	<i>Reminder</i> - Silty water was observed under heavy rain running down from the recreated channel. The Contractor was reminded to provide mitigation measure to reduce the silt running into the watercourse.	Rectification / improvement was observed during the follow-up site inspection.
	29/08/07	<i>Reminder</i> - Standing water accumulated at the manhole covers around the Administration Building. The Contractor was reminded to provide mitigation measure to avoid mosquito breed from the standing water.	This item will be followed up on the next site audit.

<b>Parameters</b>	<b>Date</b>	<b>Observations / Recommendations</b>	<b>Remedial Actions</b>
<i>Air Quality</i>	03/07/07	<i>Reminder</i> - Stockpile without covering was observed near Admin Building. The Contractor was recommended to cover it with tarpaulin sheet when it is not being used.	Rectification / improvement was observed during the follow-up site inspection.
	01/08/07	<i>Reminder</i> - Stockpile of sand without cover was observed near SHT-South Portal Building. The Contractor was reminded to cover it when it is not in use.	Rectification / improvement was observed during the follow-up site inspection.
<i>Waste/Chemical Management</i>	06/06/07	<i>Reminder</i> - Chemical containers were observed on the bare ground near Admin Building. The Contractor was reminded to provide drip tray for the chemical containers.	Rectification / improvement was observed during the follow-up site inspection.
	20/06/07	<i>Reminder</i> - Oil container was observed without drip tray at Toll Plaza. The Contractor was reminded to provide the drip tray or provide a proper storage facility for oil / fuel on site.	Rectification / improvement was observed during the follow-up site inspection.
	27/06/07	<i>Reminder</i> - General refuses were scattered on the ground near North Portal Building. The Contractor was reminded to clean up the refuses and keep site area tidiness.	Rectification / improvement was observed during the follow-up site inspection.
	27/06/07	<i>Reminder</i> - Oil container was observed without drip tray near North Portal Building. The Contractor was reminded to provide the drip tray or provide a proper storage facility for oil / fuel on site.	Rectification / improvement was observed during the follow-up site inspection.
	18/07/07	<i>Reminder</i> - General refuse was observed in the catchpit next to ENT-North Portal Building. The Contractor was reminded to remove it.	Rectification / improvement was observed during the follow-up site inspection.
	01/08/07	<i>Reminder</i> - Chemical containers without drip tray were observed near Admin Building and Ventilation Building. The Contractor was reminded to provide drip tray for them.	Rectification / improvement was observed during the follow-up site inspection.
	22/08/07	<i>Reminder</i> - Chemical containers were observed on the bare ground near Admin Building. The Contractor was reminded to provide drip tray for the chemical containers.	Rectification / improvement was observed during the follow-up site inspection.
<i>Permit / Licenses</i>	25/07/07	<i>Reminder</i> - Contraction Noise Permit was observed not posting at the entrance near the ENT-South Portal Building. The Contractor was reminded to post it at the site entrance.	Rectification / improvement was observed during the follow-up site inspection.

## **Status of Environmental Licensing and Permitting**

- 5.6 Environmental licenses and permits including the Environmental Permit for the Project were in place and valid during the reporting quarter. The status of these licenses and permits obtained for the Project is summarized in **Appendix H**.

## **6 NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)**

### **Summary of Exceedances**

#### Air Quality

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

#### Construction Noise Monitoring

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

### **Review of the Reasons for and the Implications of Non-compliance**

- 6.3 There was no non-compliance from the site audits in the reporting quarter. As mentioned previously in the Section 5.2 of this report, the observations and recommendations made in each individual site audit session were presented.



## 7 ENVIRONMENTAL COMPLAINTS

- 7.1 No environmental complaints were received in the reporting quarter.
- 7.2 The details of the complaints, the investigation results and the mitigation actions are summarized in **Appendix I**. There were 22 environmental complaints received since the Project commencement.

## **8 NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS**

- 8.1 No notification of summon or successful prosecution was recorded in this reporting quarter.
- 8.2 There was no notification of summon or successful prosecution received since the Project commencement.

## 9 COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Major site activities for Civil works in the coming months include:

#### *ENT Tunnel*

- Road Work for N/B Tunnel, T&C for equipment, T&C for Tunnel ventilation Lighting, fire services, and Road Marking for N/B & S/B.

#### *Butterfly Valley*

- Haul road diversion, road works, recreated stream, diverted, slope stabilization (BV-S1 hydro mulching), u-channel, irrigation pipe & system, WSD Access, cut/fill slope (SP-S2), high mask lighting, lighting for Noise Enclosure, drainage/culvert desilting.

#### *South Portal Building*

- Aluminum cladding installation, metal meshing, painting (parapet wall), plumbing & drainage, Tunnel Ventilation System (T&C), mechanical ventilation air condition and T&C.

#### *North Portal Building*

- Aluminum cladding installation, metal meshing, painting (parapet wall), plumbing & drainage, Tunnel Ventilation System (T&C), mechanical ventilation air condition and T&C.

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

- Road works (including EVA Road & Loop Road No.2), Footbridge (metal cladding), window water testing, tiles (external wall & internal floor), mechanical ventilation air condition and T&C, false & external metal ceiling, installation of toll collection system (T&C), skirting and rubber & Vinyl flooring, T&C for electrical equipment, signage, lift installation (testing), sanitary fittings to toilet, fire services, roof tiles, plumbing & drainage, metal curtain wall, mesh panel installation and drainage/ culvert desilting.

#### *Ventilation Building*

- Cladding & hand rail installation, utility (HGC), earth works, mechanical ventilation air conditioning and T&C, plumbing & drainage, Tunnel Ventilation System, T&C for electrical equipment and drainage/ culvert desilting.

#### *SHT – South Portal Building*

- Aluminum cladding installation, painting (parapet wall), plumbing & drainage, mechanical ventilation air conditioning and T&C, tunnel ventilation system (T&C), T&C for electrical equipment.

#### *SHT – North Portal Building*

- Aluminum cladding installation, painting (parapet wall), plumbing & drainage, mechanical ventilation air conditioning and T&C, tunnel ventilation system (T&C), T&C for electrical equipment.

*SHT Tunnel & Remaining SHT/T3 Area*

- Lighting testing, tunnel ventilation system (T&C) and fire services.

*LCKV Area*

- Lighting for noise enclosure and E&M work in pump house.

- 9.2 The major site activities for TCSS works in the coming months include:
- Cable laying, field equipment installation and SCT and SAT at Tunnel
  - Cable laying, field equipment installation and SCT and SAT at Butterfly Valley
  - Cable laying, system equipment installation and SCT and SAT at Kiosk K3, K4
  - Cable laying, system equipment installation and SCT and SAT at South Portal Building
  - Cable laying, system equipment installation and SCT and SAT at North Portal Building
  - Cable laying, field equipment installation and SCT and SAT Toll Plaza
  - Cable laying, field equipment installation and SCT and SAT Administration Building
  - Equipment cabinet installation, Antenna Installation and SCT and SAT at Ventilation Building
- 9.3 The anticipated environmental issues will be mainly on surface runoff during rainy season, dust from slope work, haul roads and stockpiles, and noise impact from road works.
- 9.4 According to the environmental audit performed in the reporting quarter and anticipated environmental issues, 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.

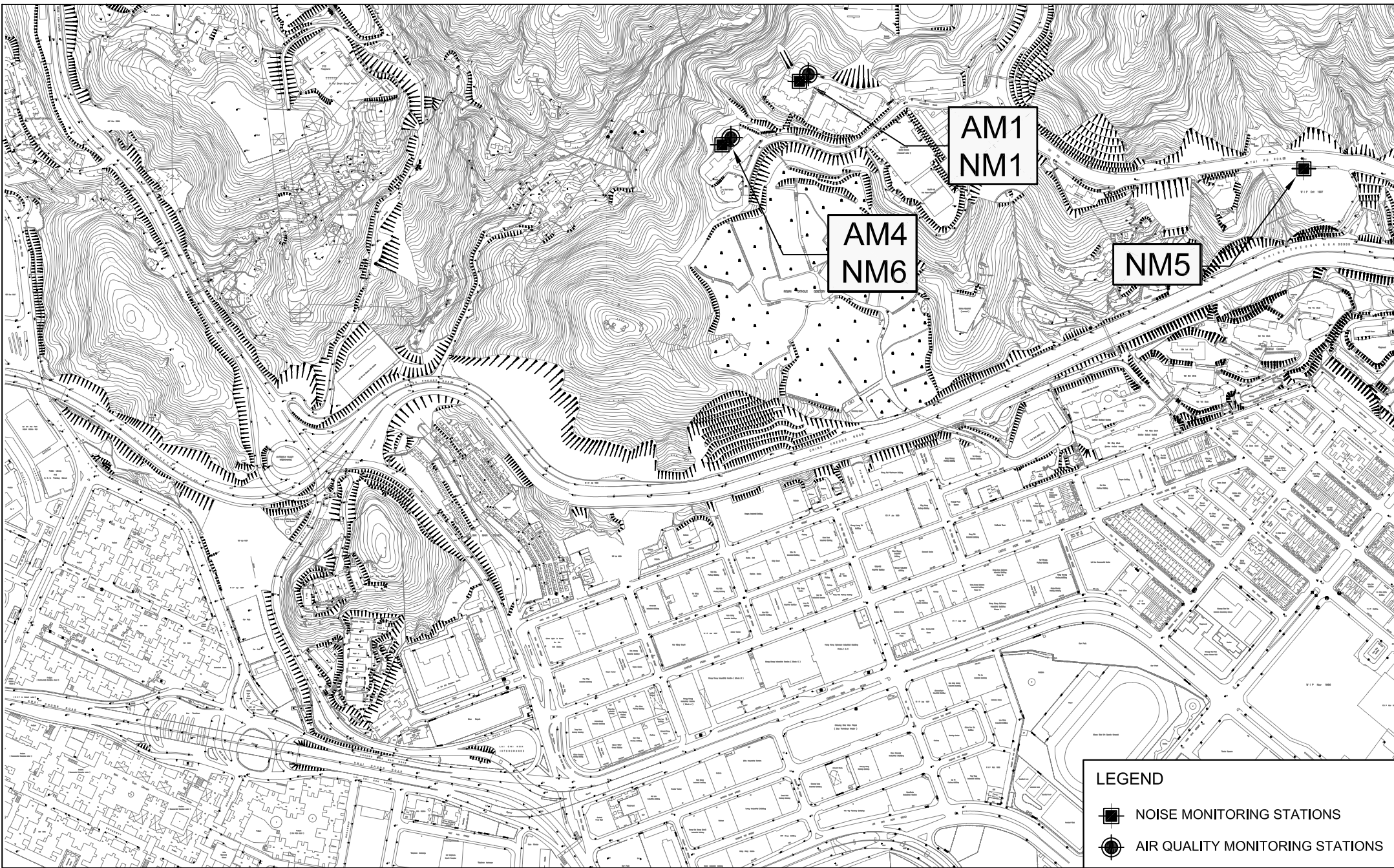
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## FIGURES

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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**

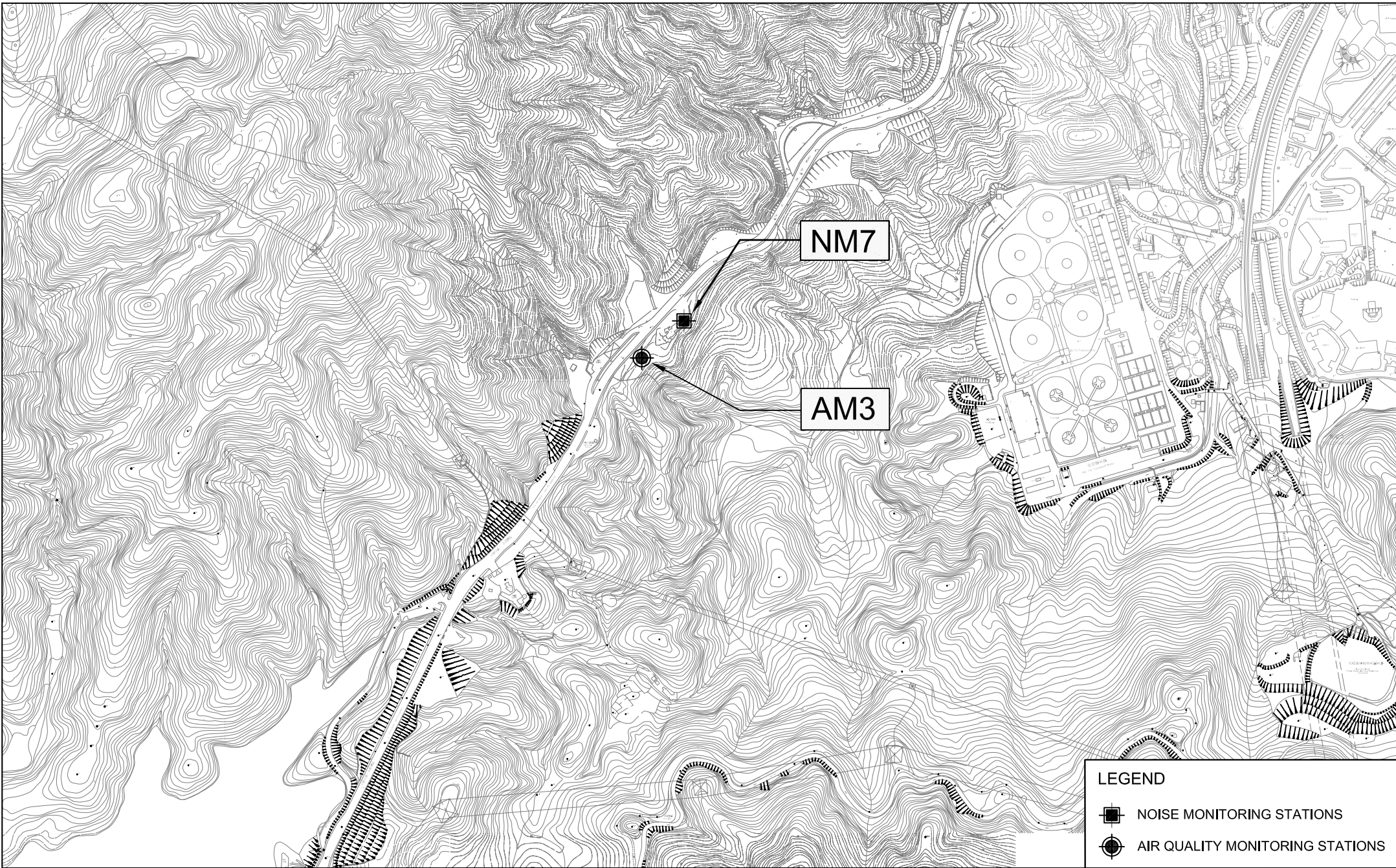
Scale  
 1 : 6500 (A4)

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)

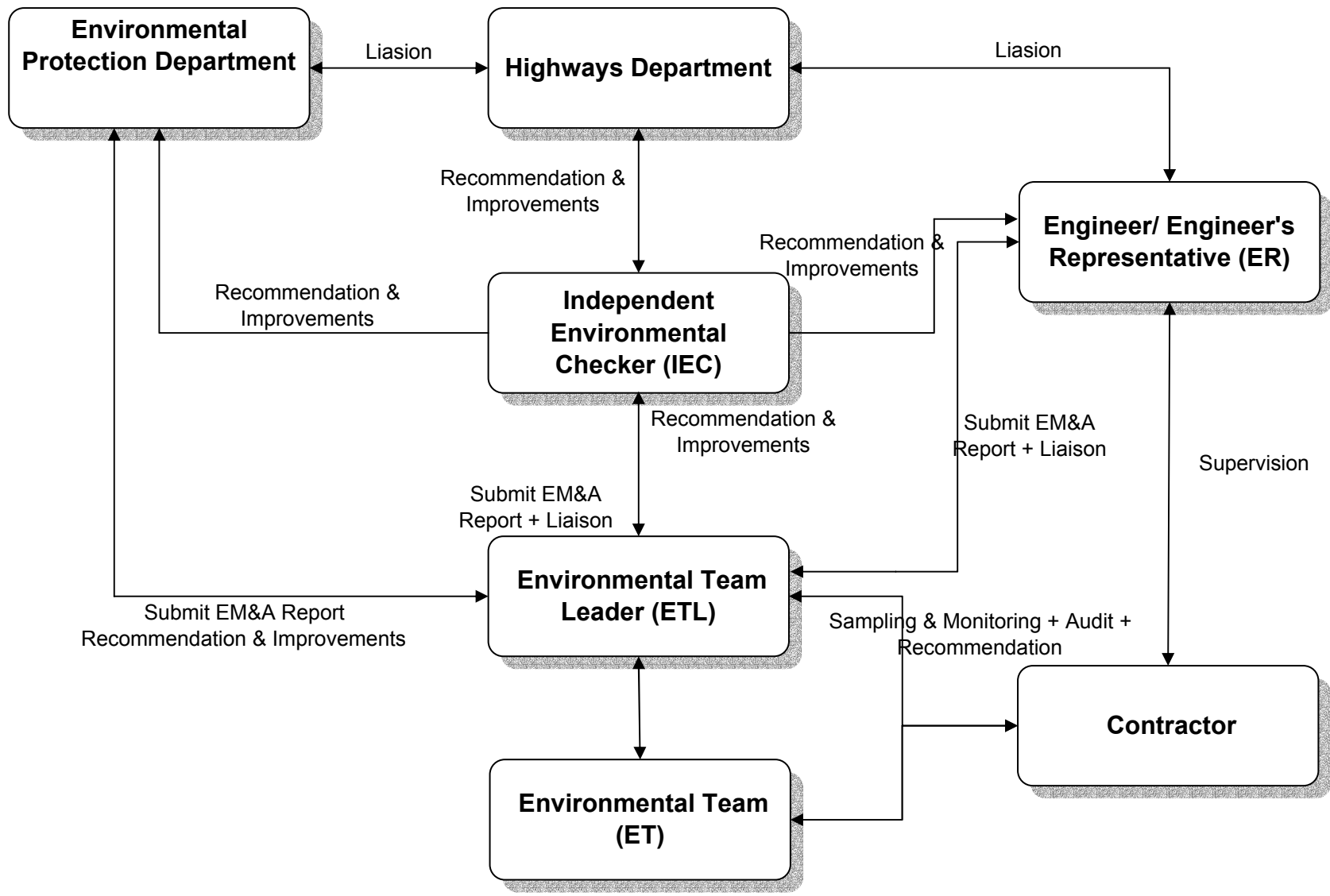
Date  
 2006

Project No.  
 MA3024

Figure No.  
 1b







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

Environmental Monitoring and Audit Organization Chart

Scale N.T.S

Date 2006

Project No. MA3024

Figure 2



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**APPENDIX A  
CONTACT DETAILS OF THE PROJECT  
ORGANISATION**

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## Appendix A - Contact Details of the Project Organisation (ENT)

<b>Party</b>	<b>Role</b>	<b>Name</b>	<b>Position</b>	<b>Phone No.</b>	<b>Fax No.</b>
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
		Ms. Grace Wong	Audit Team Leader	2151 2091	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
CH2M	Independent Environmental Checker	Mr. Kenneth Luk	Independent Environmental Checker	2507 2209	2507 2293
		Mr. Billy Yu	Deputy 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. Daniel So	ARE	2436 7435	
DIGJV	Contractor (TCSS)	Ms. Joyce Chan	Quality Manager	2123 0845	2123 0889
Enquiries Hotline				3552 2226	-
Complaint Hotline				3552 2380	-

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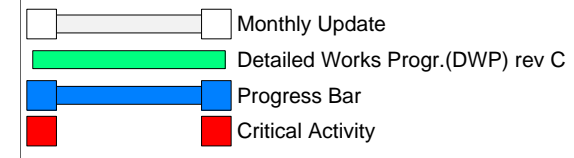
**APPENDIX B**  
**CONSTRUCTION PROGRAMME**

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Data Date: 20AUG07  
Run Date: 24AUG07 13:56

### 3 MONTH ROLLING PROGRAMME



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN		JUL			AUG			SEP			OCT			NOV			DEC	
										11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15
<b>GENERAL</b>																												
<b>Contract defined dates, stages and sections</b>																												
<b>Sections of the Works</b>																												
KD11	KD11 - Complete All Works in F3,F5,G and H4)	0		31AUG07	0	0	0	-279	-235																			
KD12	KD12 - Complete all Toll Plaza Works	0		31AUG07	0	0	0	-185	-218																			
KD14	KD14 - Compl the Works in Portions J2 & J3 (SHT)	0		31AUG07	0	0	0	-280	-213																			
KD10	KD10 - Complete All Works in F2	0		03SEP07	0	0	0	-221	-206																			
KD09	KD09 - Complete All BV (Ex KD17 & 20) (25Nov06)	0		15SEP07	0	0	0	-157	-280																			
KD25	KD25 - Complete E&M in Semi Enclosure C3,C4&I2	0		21SEP07	0	0	0	-300	-272																			
KD17	KD17 - Complete All E&M	0		24SEP07	0	0	0	-185	-194																			
<b>+ Submittals &amp; Approvals</b>																												
		930	04AUG04A	02OCT07	22	32	36	45	-385																			
<b>Testing &amp; Commissioning</b>																												
EM5060	Submit Form 501 to FSD (RC Enc. & T3)	0		15AUG07A	100	0	0		-205																			
EM5030	SHT Tunnel Issue, endorse & submit Form 501 to F	2	01AUG07A	02AUG07A	100	0	0		-197																			
EM5050	FSD Cert (Form 172) Issued for Entire Project	0		24AUG07	0	0	0	-220	-132																			
EM5090	completion of Issues from first FSD Inspections	26	25AUG07	24SEP07	0	0	26	-150	0																			
EM5080	ENT Tunnel Issue, endorse & submit Form 501 to F	3	27AUG07	29AUG07	0	0	3	72	0																			
<b>LAI CHI KOK VIADUCT</b>																												
<b>Construction Works</b>																												
<b>LCK Viaduct Noise Enclosure 1</b>																												
8322	LckVd NE1-Elect Works 1st Fix	36	06JUL07A	10AUG07A	100	0	0		-342																			
8332	LckVd NE1-Elect Works 2nd Fix	30	07AUG07A	25AUG07	80	0	6	-76	-325																			
8352	LckVd NE1 Elect Works Fin Fix	18	07AUG07A	30AUG07	70	0	10	-77	-311																			
8362	LckVd NE1 Ready for Energization	0		31AUG07	0	0	0	-77	-230																			
<b>LCK Viaduct Noise Enclosure 2</b>																												
7400	LckVd NE2-Elect Works 1st Fix	36	06JUL07A	02AUG07A	100	0	0		-335																			
7410	LckVd NE2-Elect Works 2nd Fix	30	30JUL07A	22AUG07	90	0	3	-72	-322																			
7430	LckVd NE2 Elect Works Fin Fix	18	30JUL07A	24AUG07	80	0	3	-72	-306																			
7440	LckVd NE2 Ready for Energization	0		25AUG07	0	0	0	-72	-225																			
<b>LCK Viaduct Noise Enclosure 3</b>																												
6737	LckVd NE3 & Elect Works 1st Fix	36	20AUG07	02OCT07	0	0	36	-153	-349																			
6747	LckVd NE3 Elect Works 2nd Fix	30	03OCT07	07NOV07	0	0	30	-153	-355																			
6767	LckVd NE3 Elect Works Fin Fix	18	08NOV07	28NOV07	0	0	18	-153	-359																			
<b>Testing &amp; Commissioning</b>																												
<b>LCK Viaduct Structure</b>																												
<b>Test on Completion</b>																												
106740	LckVd NE 2 - Elect T&C	18	26AUG07	12SEP07	0	0	18	-86	-278																			
108344	LckVd NE 1 (Excision) - Elect T&C	18	01SEP07	18SEP07	0	0	18	-92	-284																			



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

Proj. Name: W34E  
Layout: 3 MONTHS ROLLING PROGRAMME  
Filter: 3 MONTH ROLLING PROGRAMME  
Current Proj: W34E  
Target 1 Proj: BE02  
Sheet 1 of 10

LKVJ/ENT/DWP/B			
Date	Revision	Checked	Approved
20FEB07	Prog update Feb 07	GW	RB

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN			JUL			AUG			SEP			OCT			NOV			DEC						
										11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26
<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		-473																									
<b>Construction Works</b>																																		
<b>BUTTERFLY VALLEY 3RD PARTY WORKS</b>																																		
<b>Noise Barrier Works by ACCIONA</b>																																		
S2562	Access for 7m N.B. Works by Acciona at BV South	77	23JUN06A	10SEP07	30	0	19	62	-293																									
S2662	Access for 5m N.B. Works by Acciona at BV South	90	27SEP06A	06OCT07	0	0	40	41	-269																									
<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	10JUL07A	22AUG07	90	0	3	-241	-236																									
8382	LckVd NE6 - Elect Works 2nd Fix	24	01AUG07A	31AUG07	40	0	11	-243	-238																									
8402	LckVd NE6 - Elect Works Fin Fix	12	15AUG07A	03SEP07	50	0	6	-243	-234																									
8412	LckVd NE6 - Ready for Energization	0		04SEP07	0	0	0	-243	-234																									
108347	NE 6 (Excision) - Elect T&C	18	04SEP07	21SEP07	0	0	18	-300	-289																									
<b>Butterfly Valley Miscellaneous E&amp;M Works</b>																																		
8410	Butterfly valley - Elect Works Fin Fix	24	22JAN07A	30AUG07	98	0	10	71	-241																									
8420	Butterfly Valley - Cabling	24	25JAN07A	30AUG07	98	0	10	71	-241																									
<b>EARTHWORKS &amp; SLOPEWORKS</b>																																		
<b>SLOPE SP-S2 &amp; SP-S3</b>																																		
S2370	Remaining Works to Slopes SP-S3 & SP-S2	24	19JUL06A	08SEP07	20	0	18	-125	-361																									
<b>SLOPE BV-S4</b>																																		
<b>SURFACE DRAINAGE</b>																																		
103706	BV-S4/4 Surface Drainage	12	07SEP05A	21JUL07A	100	5	0		-343																									
<b>SLOPE SP-S1</b>																																		
<b>SURFACE DRAINAGE</b>																																		
103711	Sp-S1/4 Surface Drainage	7	06JUL04A	05SEP07	95	40	15	-122	-393																									
<b>ROADWORKS - North End of BV</b>																																		
<b>Road Pavement &amp; Associated Work</b>																																		
S2920	Road Works to East Loop Rd Typ III (EVA)	13	15FEB07A	31AUG07	50	0	11	-118	-347																									
S2930	Road Works to West Loop Road Typ III (EVA)	13	10APR07A	31AUG07	90	0	11	-118	-296																									
S3010	Installation of Road Signage (Sign Plates Only)	11	20AUG07	31AUG07	0	0	11	-76	-233																									
S2900	Road Marking & White Lining (Staged for Access)	18	02OCT07*	23OCT07	0	0	18	28	-275																									
S3660	NEW ACTIVITY - Road Pavement Friction Course	6	20AUG07	25AUG07	0	0	6	-115	0																									
<b>Miscellaneous Works</b>																																		
S2690	Installation of Drip Feed Irrigation System	12	24MAR07A	20AUG07	90	0	1	-108	-229																									
S3000	Construct Recreated Stream	25	01JUN07A	31AUG07	40	0	11	-118	-309																									
<b>ROADWORKS - South End of BV</b>																																		
<b>Road Pavement &amp; Associated Work</b>																																		
S2970	BV Sth - Bitu. Pavement to Sth Bnd Carrig'way	20	20SEP06A	21JUL07A	100	0	0		-207																									
S3190	Installation of Road Signage (Sign Plates Only)	11	20AUG07	31AUG07	0	0	11	-76	-219																									
S2990	Road Marking & White Lining (Staged Access)	18	02OCT07*	23OCT07	0	0	18	28	-261																									
S3670	NEW ACTIVITY - Road Pavement Friction Course	2	14SEP07*	15SEP07	0	0	2	-131	0																									
<b>Miscellaneous Works</b>																																		
S2780	Install & Commission Weighbridge	24	20AUG07	25AUG07	0	0	6	-83	-208																									
<b>DSD MAINTENANCE ROAD</b>																																		
<b>DSD Maintenance Rd DSD1-1 (Acciona Interface)</b>																																		
S3570	WSD Slope Reinstatement	18	08JUN07A	31AUG07	0	0	11	-118	-336																									
S2380	Complete DSD1-1 Surface Drainage & CP's	18	20MAR07A	21JUL07A	100	0	0		-229																									

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN		JUL			AUG			SEP			OCT			NOV			DEC		
										11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22
<b>DSD Maintenance Rd DSD1-1 (Acciona Interface)</b>																													
S3140	Complete Sub-base & kerbs at DSD1-1	12	14APR07A	10AUG07A	100	0	0		-234																				
S3150	Complete Surfacing at DSD1-1 (Type IV)	8	16JUL07A	13AUG07A	100	0	0		-228																				
<b>DSD Maintenance Rd DSD1 (Parallel to Channel)</b>																													
S3390	Complete Formation at DSD1	6	02DEC06A	06AUG07A	100	0	0		-325																				
S2730	Construct Recreated Stream	45	27MAR07A	25AUG07	90	0	6	-113	-238																				
S3120	DN 200 Watermain Diversion EB18 - EB70	40	10APR07A	06AUG07A	100	0	0		-285																				
S2700	Access rd DSD1 -barrier footings	6	20AUG07	25AUG07	0	0	6	-117	-336																				
S3220	Subbase & Kerbs	18	15DEC06A	10AUG07A	100	0	0		-228																				
S2720	Access rd DSD1 - Barriers	6	24AUG07	30AUG07	0	0	6	-117	-328																				
S3160	REINSTATE BV ACCESS	0		30AUG07	0	0	0	-117	-243																				
S3230	Surfacing (Type IV)	6	20DEC06A	10AUG07A	100	0	0		-222																				
<b>Landscaping &amp; Establishment</b>																													
101476	BV - Soft Landscaping & Planting	100	03JUN06A	11SEP07	92	0	20	-167	-123																				
101475	BV - Hard Landscaping	90	03JAN07A	11SEP07	85	0	20	-235	-285																				
101477	BV - Establishment works	365	12SEP07	10SEP08	0	0	365	-291	-144																				
<b>ENT SOUTH PORTAL VENTILATION BUILDING</b>																													
<b>PROCUREMENT - MATERIAL</b>																													
<b>ABWF WORKS</b>																													
2019	SP.Bldg. - Initial deliver of slate replacement	0	20JUL07A		100	0	0		-287																				
2018	SP.Bldg. - Initial deliver fall arrest roof syst	0	20AUG07A		100	0	0		-338																				
2030	SP.Bldg. - Initial deliver balust & metal works	0	20AUG07A		100	0	0		-338																				
<b>CONSTRUCTION</b>																													
<b>South Portal Bldg. - CIVIL &amp; ABWF WORKS</b>																													
<b>ABWF WORKS</b>																													
<b>Roof &amp; External Facade</b>																													
T2360	Ent SPB - GMS,S/S Channel, Balustrade & Railing	24	24MAR07A	30AUG07	70	0	10	-117	-265																				
T2540	Ent SPB - Slate Cladding above NB/SB Carriageway	30	20JUL07A	31AUG07	85	0	11	-83	-288																				
T2390	Ent SPB - Expanded metal cladding to Ext Walls	18	20AUG07*	08SEP07	0	0	18	-83	-282																				
<b>ENT South Portal Bldg. - BUILDING SERVICES</b>																													
<b>E &amp; M WORKS</b>																													
<b>Testing and Commissioning</b>																													
EM1130	Genset Termination + T&C	12	21FEB07A	20JUL07A	100	0	0		-258																				
<b>Statutory Inspection &amp; Issued Certificates</b>																													
EM1320	Submit Form WWO46 for Water Supply to WSD	30	17MAR07A	05SEP07	50	0	15	66	-327																				
EM1340	Water Supply Certificate issued	0		05SEP07	0	0	0	66	-327																				
<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		-473																				
ACS_F2	Access to Portions - F2 (U/Gnd Sth Tunnel)	0	20OCT03A		100	100	0		-473																				
<b>Construction Works</b>																													
<b>Tunnel Drive North Bound</b>																													
<b>Tunnel Finishing Works</b>																													
1443	NB Cleaning/Inspection & Install Induction Loop	12	31AUG07	13SEP07	0	0	12	59	-186																				
<b>Bituminous Pavement</b>																													
1339	NB Road Marking 1950m	18	20AUG07	08SEP07	0	0	18	63	-182																				
<b>VE Panel Installation</b>																													
3646	NB - Bespoke Panels (Niches)	20	16JUL07A	30AUG07	50	0	10	-175	0																				

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN			JUL			AUG			SEP			OCT			NOV			DEC	
										45	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22
<b>ENT NB TUNNEL - (E&amp;M) BUILDING SERVICES</b>																													
MVAC / Tunnel Ventilation Syst Above OHVD																													
277968	Ent NB - TVF Testing and T&C	36	15MAY07A	15AUG07A	100	0	0		-227																				
Fire Protection System																													
277996	Ent NB - FS Wiring and Terminations	30	10OCT06A	20JUL07A	100	0	0		-224																				
277997	Ent NB - FS Testing and T&C	24	10APR07A	21JUL07A	100	0	0		-201																				
Electrical Works Below OHVD																													
278013	Ent NB - Lighting / Eqipt Testing and T&C	60	19MAR07A	25AUG07	98	0	6	72	-259																				
278011	Ent NB-Install CCTV,Camera,Eqpt @C/Lvl (By TCSS)	72	16APR07A	08AUG07A	100	0	0		-286																				
<b>Tunnel Drive South Bound</b>																													
<b>Tunnel Finishing Works</b>																													
2172	SB Cleaning/Inspection & Install Induction Loop	12	18SEP07	03OCT07	0	0	12	44	-189																				
Bituminous Pavement																													
1350	SB Wearing Course - RHS 650m Ch3030->2380	3	20AUG07*	22AUG07	0	0	3	-178	-199																				
1370	SB Wearing Course - RHS 650m Ch2380->1730	3	22AUG07	24AUG07	0	0	3	-178	-197																				
1390	SB Wearing Course - RHS 650m Ch1730->1080	3	24AUG07	27AUG07	0	0	3	-178	-195																				
1360	SB Wearing Course - LHS 650m Ch3030->2380	3	27AUG07	29AUG07	0	0	3	-178	-193																				
1380	SB Wearing Course - LHS 650m Ch2380->1730	3	29AUG07	31AUG07	0	0	3	-178	-191																				
1400	SB Wearing Course - LHS 650m Ch1730->1080	3	31AUG07	03SEP07	0	0	3	-178	-189																				
1340	SB Road Marking	18	04SEP07	24SEP07	0	0	18	44	-189																				
VE Panel Installation																													
3653	SB - Bespoke Panels (Niches)	20	18APR07A	21JUL07A	100	0	0		0																				
<b>ENT SB TUNNEL - (E&amp;M) BUILDING SERVICES</b>																													
MVAC / Tunnel Ventillation System Above OHVD																													
278019	Ent SB - TVF Testing and T&C	35	15MAY07A	15AUG07A	100	0	0		-223																				
Fire Protection System																													
278039	Ent SB - FS Wiring and Terminations	30	10OCT06A	20JUL07A	100	0	0		-238																				
278040	Ent SB - FS Testing and T&C	24	10APR07A	21JUL07A	100	0	0		-215																				
Electrical Works Below OHVD																													
278056	Ent SB - Lighting / Eqipt Testing and T&C	60	15JAN07A	21AUG07	98	0	2	76	-231																				
278054	Ent SB-Install CCTV,Camera,Eqpt @C/Lvl (by TCSS)	72	16APR07A	08AUG07A	100	0	0		-268																				
<b>Testing &amp; Commissioning</b>																													
<b>Eagle's Nest Tunnel</b>																													
<b>Statutory Inspections</b>																													
EM5020	ENT Tunnel FSD Insp(Tunnel System)	4	09AUG07A	14AUG07A	100	0	0		-129																				
<b>VENTILATION ADIT &amp; BUILDING</b>																													
<b>PROCUREMENT</b>																													
<b>ARCHITECTURAL</b>																													
2026	VA Bldg. - Procure expanded metal mesh cladding	60	06JUN05A	20AUG07A	100	50	0		-377																				
2031	VA Bldg. - Initial delivery slate cladding	0	20JUL07A		100	0	0		-274																				
2034	VA Bldg. - Initial delivery fall arrest roof sys	0	20AUG07A		100	0	0		-331																				
2035	VA Bldg. - Initial delivery balust & metal works	0	20AUG07A		100	0	0		-331																				
2043	VA Bldg. - Initial deliv exp metal mesh cladding	0	05SEP07		0	0	0	49	-314																				
<b>CONSTRUCTION WORKS</b>																													
<b>EXTERNAL WORKS</b>																													
<b>Drainage</b>																													
S1970	Storm Drain & Gullies at Access Apron	24	14APR07A	30AUG07	80	0	10	71	-330																				
<b>Ducting &amp; Drawpits</b>																													
S1980	HGC Ducting & Drawpits	18	16APR07A	31AUG07	80	0	11	-223	-271																				
<b>Watermain Works</b>																													
S1990	Irrigation Pipework	14	21MAY07A	21AUG07A	100	0	0		-280																				



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN		JUL			AUG				SEP			OCT			NOV			DEC	
										45	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22
<b>Road Pavement &amp; Associated Work</b>																													
S1920	Preparation and Block Paving	22	13JUN07A	27AUG07	60	0	7	-225	-219	[Gantt bar: Start 13/06, End 27/08, 60% complete]																			
S1930	Signage, furniture and finishes	24	20JUL07A	10SEP07	50	0	11	-225	-207	[Gantt bar: Start 20/07, End 10/09, 50% complete]																			
<b>VENTILATION BUILDING</b>																													
<b>VA Building - ABWF</b>																													
<b>VA Building - External Finishes</b>																													
T3120	VA Bldg. - Alum Comp Panel Cladding to Ext Walls	60	21FEB07A	23AUG07A	100	0	0		-247	[Gantt bar: Start 21/02, End 23/08, 100% complete]																			
T2140	VA Bldg. - Aluminium/Slate Cladding	32	18JUL07A	15SEP07	65	0	24	57	-280	[Gantt bar: Start 18/07, End 15/09, 65% complete]																			
T3105	VA Bldg. - Removed Ext Scaffolding (excl slate)	12	20JUL07A	22JUL07A	100	0	0		-207	[Gantt bar: Start 20/07, End 22/07, 100% complete]																			
T3100	VA Bldg. - Balustrades	11	20AUG07A	31AUG07	0	0	11	-219	-298	[Gantt bar: Start 20/08, End 31/08, 0% complete]																			
T2110	VA Bldg. - Expanded metal cladding to Ext Walls	18	05SEP07	26SEP07	0	0	18	49	-310	[Gantt bar: Start 05/09, End 26/09, 0% complete]																			
<b>E &amp; M WORKS</b>																													
<b>Testing and Commissioning</b>																													
EM2240	Genset Termination + T&C	12	21FEB07A	20JUL07A	100	0	0		-266	[Gantt bar: Start 21/02, End 20/07, 100% complete]																			
<b>Statutory Inspection &amp; Issued Certificates</b>																													
EM3001	Submit Form WWO46 for Water Supply to WSD	30	17MAR07A	21AUG07	30	0	2	79	-188	[Gantt bar: Start 17/03, End 21/08, 30% complete]																			
EM3003	Water Supply Certificate issued	0		21AUG07	0	0	0	79	-188	[Milestone: 21/08]																			
EM2500	Bldg FSD insp. (Excl. Tunnel System) (VB)	6	23JUL07A	24JUL07A	100	0	0		-118	[Gantt bar: Start 23/07, End 24/07, 100% complete]																			
<b>EXTERNAL AREAS</b>																													
<b>LANDSCAPING &amp; ESTABLISHMENT WORKS</b>																													
T3180	Planting Works	18	02SEP06A	01SEP07	95	0	12	-227	-272	[Gantt bar: Start 02/09, End 01/09, 95% complete]																			
T3200	Establishment Works	365	02SEP07	31AUG08	0	0	365	-281	-337	[Gantt bar: Start 02/09, End 31/08, 0% complete]																			
<b>ENT NORTH PORTAL VENTILATION BUILDING</b>																													
<b>PROCUREMENT - MATERIAL</b>																													
<b>ABWF WORKS</b>																													
1981	NP.Bldg. - Procure expanded metal cladding	180	06JUN05A	20AUG07	50	50	0	62	-377	[Gantt bar: Start 06/06, End 20/08, 50% complete]																			
2066	NP.Bldg. - Initial deliv expanded metal cladding	0	21AUG07*		0	0	0	62	-301	[Milestone: 21/08]																			
<b>CONSTRUCTION</b>																													
<b>North Portal Bldg. - CIVIL &amp; ABWF WORKS</b>																													
<b>ABWF WORKS</b>																													
<b>NP Bldg - Roofing &amp; External Facade</b>																													
T1800	Ent NPB - Roof Waterproofing & Test	12	20OCT06A	25AUG07	90	0	6	75	-353	[Gantt bar: Start 20/10, End 25/08, 90% complete]																			
T1750	Ent NPB - Alum. Comp Panel Cladding to Ext Walls	60	09NOV06A	07AUG07A	100	0	0		-217	[Gantt bar: Start 09/11, End 07/08, 100% complete]																			
T1790	Ent NPB - GMS,S/S Channel, Balustrade & Railing	24	05MAR07A	31AUG07	85	0	11	-151	-304	[Gantt bar: Start 05/03, End 31/08, 85% complete]																			
T1780	Ent NPB - Slate replacement cladding above NB/SB	36	09JUL07A	31AUG07	90	0	11	63	-301	[Gantt bar: Start 09/07, End 31/08, 90% complete]																			
T1770	Ent NPB - Expanded metal cladding to Ext Walls	18	21AUG07	10SEP07	0	0	18	62	-283	[Gantt bar: Start 21/08, End 10/09, 0% complete]																			
<b>ENT North Portal Bldg. - BUILDING SERVICES</b>																													
<b>E &amp; M WORKS</b>																													
<b>Testing and Commissioning</b>																													
EM2840	Genset Termination + T&C	12	01MAR07A	30JUL07A	100	0	0		-290	[Gantt bar: Start 01/03, End 30/07, 100% complete]																			
<b>TOLL PLAZA &amp; ANCILLIARY STRUCTURES</b>																													
<b>Construction Works</b>																													
<b>TOLL PLAZA EAST SIDE</b>																													
S1420	Road Pavement Surfacing (Flex & Rigid)	56	18OCT06A	31AUG07	75	0	11	-151	-255	[Gantt bar: Start 18/10, End 31/08, 75% complete]																			
K1192	East Loop Road - Formation & Roadworks	36	12JAN07A	31AUG07	90	0	11	-151	-230	[Gantt bar: Start 12/01, End 31/08, 90% complete]																			
S1140	Furniture, signage (face only), white lining	18	01SEP07	21SEP07	0	0	18	-127	-255	[Gantt bar: Start 01/09, End 21/09, 0% complete]																			
<b>TOLL PLAZA WEST SIDE</b>																													
S1310	Road Pavement Surfacing	57	07MAR07A	31AUG07	80	0	11	-151	-222	[Gantt bar: Start 07/03, End 31/08, 80% complete]																			
K1171	West Loop road - Roadworks	36	12MAR07A	31AUG07	90	0	11	-151	-321	[Gantt bar: Start 12/03, End 31/08, 90% complete]																			
S1410	Furniture, signage (face only), white lining	18	01SEP07	21SEP07	0	0	18	-127	-222	[Gantt bar: Start 01/09, End 21/09, 0% complete]																			

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN			JUL			AUG			SEP			OCT			NOV			DEC						
										11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26
<b>TOLL PLAZA - works adjacent to building</b>																																		
S1400	ENT NPB - Kerbs & Rwks & misc Finishes	12	15NOV06A	18AUG07A	100	0	0		-365																									
S1417	SHT SPB - Kerbs & Rwks & misc finishes	12	06MAR07A	31AUG07	85	0	11	-151	-374																									
S1437	Admin Bldg & Wshop - kerbs, Rwks & misc finishes	30	22MAR07A	31AUG07	75	0	11	-151	-310																									
<b>TOLL PLAZA FOOTBRIDGE</b>																																		
<b>ABWF</b>																																		
S1264	Installation of Aluminium Cladding	38	01MAR07A	31AUG07	90	0	11	-151	-350																									
S1250	Toll Ftbrdge - Finishes	54	18JUN07A	31AUG07	80	0	11	-145	-266																									
<b>E &amp; M WORKS</b>																																		
S1450	Toll Plaza Footbridge - Lift Commissioning	24	12JUL07A	17AUG07A	100	0	0		-328																									
S1470	E&M Installation at Footbridge	30	14APR07A	31AUG07	98	0	6	-151	-320																									
S1500	E&M Footbridge T&C	18	15JUL07A	31AUG07	60	0	11	70	-302																									
<b>TOLL PLAZA BOOTHS</b>																																		
S1460	Toll Booths E&M - T&C	24	10JUL07A	20JUL07A	100	0	0		-140																									
<b>ADMIN.BLDG. - WORKSHOP</b>																																		
S1350	Workshop - External Finishes	60	03AUG06A	20JUL07A	100	0	0		-258																									
S1320	Workshop - Remaining internal Finishes	36	20AUG06A	31JUL07A	100	0	0		-267																									
<b>LANDSCAPING &amp; ESTABLISHMENT WORKS</b>																																		
S1480	Planting Works at Toll Plaza	24	10APR07A	08SEP07	50	0	18	-165	-141																									
S1490	Establishment Works at Toll Plaza	365	09SEP07	07SEP08	0	0	365	-288	-164																									
<b>ADMINISTRATION BUILDING</b>																																		
<b>SUBMITTALS &amp; APPROVALS</b>																																		
<b>ABWF. MTRL SUBMITTALS</b>																																		
1885	Admin.Bldg. - Prep & submit wood ceiling details	24	20NOV04A	30AUG07	50	50	10	71	-383																									
1881	Admin.Bldg. - Prep & sub GRP water tank details	24	12JAN05A	01SEP07	50	50	12	69	-385																									
1888	Admin.Bldg. - Approve suspended ceiling details	24	02APR07A	28AUG07	80	0	8	73	-357																									
1886	Admin.Bldg. - Approve wood ceiling details	24	13JUN07A	25AUG07	50	0	6	75	-355																									
<b>E&amp;M EQPT. / MTRL. SUBMITTALS</b>																																		
8248	AdmBldg-Engineer to provide Cater'g equip detail	0	07APR05A		100	100	0		-699																									
<b>PROCUREMENT - MATERIAL</b>																																		
<b>ABWF WORKS</b>																																		
2056	Admin.Bldg. - Initial delivery sheet decking	0	20AUG07		0	0	0	81	-343																									
2059	Admin.Bldg.- Initial deliv fall arrest roof syst	0	20AUG07*		0	0	0	-116	-338																									
2060	Admin.Bldg. - Initial deliver balust & metal wks	0	20AUG07*		0	0	0	-116	-338																									
<b>CONSTRUCTION</b>																																		
<b>TCSS Access at Admin Bldg</b>																																		
T3350	TCSS Works Within Admin Bldg / Tunnel & Ext	140	15SEP06A	13SEP07	50	0	22	59	-218																									
T2930	ALL TCSS COMPLETE FOR FSD INSPECTION	0		13SEP07	0	0	0	59	-218																									
<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	20JUL07A	100	5	0		-332																									
T1685	AB G/F (Grid 1-21) - Wall Plaster & Flr Screed	20	19APR06A	20JUL07A	100	10	0		-346																									
T1680	AB G/F (Grid 1-21) - Windows & door frames	18	24APR06A	10AUG07A	100	56	0		-370																									
T2990	AB G/F (Grid 1-21) - Tileworks & Sanitary Fixt	30	15SEP06A	30AUG07	90	0	10	71	-365																									
T2150	AB G/F (Grid 1-21) - Door Leaf & Final Paints	12	02JAN07A	30AUG07	88	0	10	-150	-292																									
T2160	AB G/F (Grid 1-21) - Install Ceiling Panels	10	15JUN07A	30AUG07	30	0	10	-150	-306																									
Admin Bldg (1/F) - Internal Work @ Grid 1 to 18																																		
T1982	AB (1/F to 2/F) - Staircase Finishing Works	30	18APR06A	20JUL07A	100	5	0		-332																									

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN			JUL			AUG			SEP			OCT			NOV			DEC						
										45	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26
Admin Bldg (1/F) - Internal Work @ Grid 1 to 18																																		
T1980	AB 1/F (Grid 1-18) - Wdws & Door Frames	18	24APR06A	20JUL07A	100	56	0		-351																									
T2165	AB 1/F (Grid 1-18) - Install Skirting	14	15JUN06A	15AUG07A	100	0	0		-266																									
T2010	AB 1/F (Grid 1-18) - Tileworks & Sanitary Fixt	21	20SEP06A	30AUG07	90	0	10	71	-374																									
T2170	AB 1/F (Grid 1-18) - Door Leaf & Final Paints	12	02JAN07A	30AUG07	88	0	10	-150	-281																									
T2185	AB 1/F (Grid 1-18) - Install Ceiling Panels	10	16JUN07A	30AUG07	30	0	10	-150	-305																									
T3015	AB 1/F (Grid 1-18) - Floor Carpets	12	18JUN07A	01SEP07	5	0	12	69	-295																									
T2012	AB 1/F (Grid 10-18) - Proprietary Toilet Cubicle	12	20AUG07	01SEP07	0	0	12	69	-364																									
Admin Bldg (2/F) - Internal Work @ Grid 1 to 18																																		
T2060	AB 2/F (Grid 1-18) - Wdws & Door Frames	12	11APR06A	23JUL07A	100	50	0		-356																									
T2062	AB (2/F to Rf/Lvl) - Staircase Finishing Works	30	18APR06A	20JUL07A	100	5	0		-332																									
T2020	AB 2/F (Grid 1-18) - Tileworks & Sanitary Fixt	18	01OCT06A	25AUG07	90	0	6	-146	-349																									
T1865	AB 2/F (Tel, Comp, Cont) - Door Lf & Final Paint	12	08JAN07A	31AUG07	90	0	2	-151	-242																									
T2220	AB 2/F (Grid 1-18) - Door Leaf & Final Paints	12	10JAN07A	23AUG07	88	0	4	-144	-241																									
T3045	AB 2/F (Tel, Comp, Cont Rm) - Ceiling Grids	18	26MAR07A	10AUG07A	100	0	0		-287																									
T2045	AB 2/F (Grid 1-18) - Install Ceiling Grids	18	17APR07A	20JUL07A	100	0	0		-269																									
T2058	AB 2/F (Grid 1-18) - Install Ceiling Panels	18	10JUL07A	31AUG07	50	0	11	-151	-260																									
T3065	AB 2/F (Corridor & Cont Rm) - Ceiling Panels	18	10JUL07A	31AUG07	80	0	11	-151	-254																									
T2028	AB 2/F (Grid 1-18) - Proprietary Toilet Cubicle	10	20AUG07	30AUG07	0	0	10	-150	-343																									
T2068	AB 2/F (Grid 1-18) - Floor Carpets	12	22AUG07	04SEP07	0	0	12	-112	-275																									
T3068	AB 2/F (Corridor & Cont Rm) - Floor Carpets	12	22AUG07	04SEP07	0	0	12	67	-263																									
Admin Bldg (Roof/Fir) - Inter Works Grid 3 to 16																																		
T2235	AB R/F (Grid 3-16) - Door Leaf & Final Paints	6	22DEC06A	20AUG07A	100	0	0		-307																									
Admin Bldg - Upper Roof & External Facade																																		
T2340	AB Ext (GL 11-21) - Slate R replacement Cladding	30	03APR06A	14SEP07	50	30	23	58	-387																									
T2850	AB Ext (GL 1-11) - Install Louvres & Wdw Glazing	60	03APR06A	20JUL07A	100	70	0		-342																									
T2860	AB Ext (GL 11-21) - Install Louvres & Wdw Glazing	60	03APR06A	25AUG07	99	70	6	75	-373																									
T2230	AB Ext (GL 6-11) - Curtain Wall & Glass Canopy	30	03JUL06A	22AUG07	90	0	3	78	-316																									
T2841	AB Ext UR/LR - Render&wall paint to Open Area Rf	12	25JUL06A	21JUL07A	100	0	0		-307																									
T2330	AB Ext (GL 1-11) - Slate replacement Cladding	45	15OCT06A	14SEP07	50	0	23	58	-342																									
T2900	AB Ext UR/LR - Insulation & Conc Roof Tile	30	06NOV06A	05SEP07	70	0	15	-109	-316																									
T2350	AB Ext (GL 1-11) - Ceramic Wall Tiles	30	18DEC06A	25AUG07	95	0	6	-146	-320																									
T2830	AB Ext (GL 11-21) - Ceramic Wall Tiles	30	20MAR07A	25AUG07	99	0	6	-146	-350																									
T2245	AB Ext (GL 1-21) - Remove External Scaffolding	12	18JUL07A	20JUL07A	100	0	0		-234																									
T2270	AB Ext (GL 3-11) - Expanded metal mesh cladding	18	20AUG07*	08SEP07	0	0	18	-140	-283																									
T2280	AB Ext (GL 11-16) - Expanded metal mesh cladding	18	20AUG07*	08SEP07	0	0	18	-140	-307																									
T2915	AB Ext UR/LR- Install GMS, Balustrades & Railing	18	20AUG07	08SEP07	0	0	18	-116	-280																									
<b>BUILDING SERVICES</b>																																		
Admin Bldg (G/F) - E & M Works																																		
EM3540	BS Works in G/F	90	01JUN06A	25JUL07A	100	12	0		-285																									
Admin Bldg (1/F) - E & M Works																																		
EM3560	BS Works in 1/F	90	08JUN06A	25JUL07A	100	12	0		-285																									
Admin Bldg (2/F) - E & M Works																																		
EM3580	BS Works in 2/F	90	08JUN06A	25JUL07A	100	0	0		-246																									
Admin Bldg (Int. & Ext. Roof Lvl) - E & M Works																																		
EM3600	BS Works in R/F	78	06JUN06A	22AUG07	98	1	3	78	-315																									
EM3190	Admin Bldg - Lift Installation	72	19JUN06A	20AUG07A	100	0	0		-230																									

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN		JUL			AUG			SEP			OCT			NOV			DEC	
										45	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15
<b>Admin Bldg - Testing and Commissioning</b>																												
EM3460	Genset Termination + T&C	12	23FEB07A	22JUL07A	100	0	0		-275																			
EM3740	Integrated E&M System T&C	0	18JUL07A	22JUL07A	100	0	0		-138																			
<b>Admin Bldg - Statutory Inspection and Handover</b>																												
EM3880	Bldg FSD insp. (Excl. Tunnel System) (ADB)	6	25JUL07A	02AUG07A	100	0	0		-123																			
EM3370	Admin Bldg - Lift Commissioning	24	20AUG07	15SEP07	0	0	24	57	-229																			
<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		-473																			
ACS_D8	Access to Portion - D8	0	03JAN06A		100	100	0		-473																			
<b>CONSTRUCTION</b>																												
<b>CIVIL &amp; ABWF WORKS</b>																												
<b>ABWF</b>																												
AB6022	Remedy SHT Contractor Defects	25	12DEC05A	20JUL07A	100	90	0		-355																			
<b>ABWF at GF</b>																												
AB6042	G/F Paint Touch Up & Doors	12	22JAN07A	20JUL07A	100	0	0		-218																			
<b>ABWF at 4F and above</b>																												
AB6004	Initial Finishes to 4/F and above	24	13APR06A	29AUG07	95	10	9	72	-359																			
<b>Roof &amp; External Facade</b>																												
AB6077	Sht SPB - Alum. composite cladding to ext walls	60	07AUG06A	31AUG07	98	0	11	-226	-254																			
AB6047	Sht SPB - GMS, S/S Channel, Balustrade & Railing	18	14AUG06A	31AUG07	95	0	6	70	-316																			
AB6037	Sht SPB - Roof Waterproofing & Test	12	15DEC06A	15AUG07A	100	0	0		-356																			
AB6057	Sht SPB - 25thk Roof Screed & Roofing Tiles	18	25JAN07A	21JUL07A	100	0	0		-305																			
AB6007	Sht SPB - Slate Cladding above NB/SB Carriageway	36	12FEB07A	31AUG07	85	0	11	70	-322																			
AB6027	Sht SPB - External Wall Painting	30	13MAR07A	17AUG07A	100	0	0		-322																			
AB6034	Sht SPB - Expanded metal cladding to ext walls	18	20AUG07*	08SEP07	0	0	18	-191	-301																			
<b>SHT South Portal Bldg. - BUILDING SERVICES</b>																												
<b>E &amp; M WORKS</b>																												
<b>Testing and Commissioning</b>																												
EM6280	Genset Termination + T&C	12	15JAN07A	31JUL07A	100	0	0		-286																			
<b>SHT TUNNEL</b>																												
<b>CONSTRUCTION</b>																												
<b>SHT NORTHBOUND TUNNEL</b>																												
<b>(E &amp; M) BUILDING SERVICES</b>																												
<b>MVAC / Tunnel Ventillation System Above OHVD</b>																												
207008	Sht NB - MVAC/TVF Testing and T&C	35	20JUN07A	10AUG07A	100	0	0		-284																			
<b>Fire Protection System</b>																												
221057	Sht NB - Hose Reel Cabinets & Equipts	40	08MAY06A	15AUG07A	100	0	0		-312																			
221059	Sht NB - FS wiring & termination	24	09NOV06A	15AUG07A	100	0	0		-286																			
221061	Sht NB - FS Testing and T&C	15	11APR07A	15AUG07A	100	0	0		-274																			
<b>Electrical Works Below OHVD</b>																												
235165	Sht NB - Cabling, Wiring and Termination	36	30MAY06A	15AUG07A	100	0	0		-301																			
235166	Sht NB - Lighting Test and T&C	12	02MAR07A	15AUG07A	100	0	0		-289																			
<b>SHT SOUTHBOUND TUNNEL</b>																												
<b>(E &amp; M) BUILDING SERVICES</b>																												
<b>MVAC / Tunnel Ventillation System Above OHVD</b>																												
242274	Sht SB - MVAC/TVF Testing and T&C	35	20JUN07A	10AUG07A	100	0	0		-270																			
<b>Fire Protection System</b>																												
256518	Sht SB - Hose Reel Cabinets & Equipts	40	30JUN06A	15AUG07A	100	0	0		-258																			
256520	Sht SB - FS Wiring & Termination	24	10NOV06A	15AUG07A	100	0	0		-232																			
256521	Sht SB - FS Testing and T&C	18	11APR07A	15AUG07A	100	0	0		-220																			

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN		JUL			AUG			SEP			OCT			NOV			DEC						
										45	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
Electrical Works Below OHVD																																	
270803	Sht SB - Cabling, Wiring and Termination	36	01OCT06A	15AUG07A	100	0	0		-255																								
270804	Sht SB - Lighting Test and T&C	12	02MAR07A	15AUG07A	100	0	0		-243																								
<b>STATUTORY INSPECTIONS</b>																																	
<b>FSD INSPECTIONS</b>																																	
EM5040	SHT Tunnel FSD Insp.	3	15AUG07A	21AUG07	100	0	2		-195																								
<b>SHT NORTH PORTAL BUILDING</b>																																	
<b>CONSTRUCTION</b>																																	
<b>CIVIL &amp; ABWF WORKS</b>																																	
ABWF Works																																	
ABWF at GF																																	
AB7330	G/F paint Touch Up & Doors	12	22JAN07A	20JUL07A	100	0	0		-197																								
ABWF at 1F & LP																																	
AB7320	1F & LP Paint Touch Up & Doors	12	18JAN07A	20JUL07A	100	0	0		-197																								
Roofing & External Facade																																	
AB7280	Sht NPB - Alum. composite cladding to ext walls	60	16OCT06A	25AUG07	98	0	6	-221	-249																								
AB7270	Sht NPB - Roof Waterproofing & Test	12	22DEC06A	21AUG07	95	0	2	79	-360																								
AB7260	Sht NPB - External Wall Painting	30	01FEB07A	17AUG07A	100	0	0		-318																								
AB7310	Sht NPB - Slate Cladding above NB/SB Carriageway	36	12FEB07A	31AUG07	85	0	11	-191	-313																								
AB7250	Sht NPB - GMS, S/S Channel, Balustrade & Railing	18	16APR07A	25AUG07	95	0	6	75	-290																								
AB7220	Sht NPB - Expanded metal cladding to Ext Walls	18	20AUG07*	08SEP07	0	0	18	-191	-301																								
<b>Sht North Portal Bldg. - BUILDING SERVICES</b>																																	
<b>E &amp; M WORKS</b>																																	
Testing and Commissioning																																	
EM7500	Genset Termination + T&C	12	21FEB07A	31JUL07A	100	0	0		-287																								
<b>SHT RC ENCLOSURE &amp; T3 UNDERPASS</b>																																	
<b>INTERFACE DATES</b>																																	
<b>SHT RC FULL ENCLOSURE / T3 UNDERPASS</b>																																	
EM4030	Integrated T&C	30	15JUL07A	15AUG07A	100	0	0		-145																								
<b>CONSTRUCTION WORKS</b>																																	
<b>SHT RC FULL ENCLOSURE / T3 UNDERPASS</b>																																	
<b>STN RC FULL ENCLOSURE (North Bound) - E&amp;M WORKS</b>																																	
MVAC / Tunnel Ventillation System																																	
280006	RCFE NB - Cabling, wiring and termination	24	25NOV06A	20AUG07A	100	0	0		-297																								
280008	RCFE NB - TVF Testing and T&C	12	20JUL07A	21AUG07	95	0	2	79	-210																								
Fire Protection System																																	
280026	RCFE NB - FS Conduit, Hose Reel Cabinets & Eqpt.	16	31JUL06A	20AUG07A	100	0	0		-310																								
280030	RCFE NB - FS Wiring & Termination	24	28FEB07A	20AUG07A	100	0	0		-282																								
280032	RCFE NB - FS Testing and T&C	12	25MAY07A	20AUG07A	100	0	0		-209																								
280029	RCFE NB - Install Smoke detector @ N1-N3	10	01AUG07A	20AUG07A	100	0	0		-300																								
Electrical Works																																	
280040	RCFE NB - Install Power Distn Panels & Test	30	13MAR07A	20AUG07A	100	0	0		-284																								
<b>STN RC FULL ENCLOSURE (South Bound) - E&amp;M WORKS</b>																																	
MVAC / Tunnel Ventillation System																																	
280088	RCFE SB - Cabling, wiring and termination	24	21FEB07A	20AUG07A	100	0	0		-297																								
280090	RCFE SB - TVF Testing and T&C	12	20JUL07A	21AUG07	95	0	2	79	-210																								
Fire Protection System																																	
280096	RCFE SB - FS Conduit, Hose Reel Cabinets & Eqpt.	16	01NOV06A	20AUG07A	100	0	0		-347																								
280102	RCFE SB - FS Wiring & Termination	24	28FEB07A	20AUG07A	100	0	0		-319																								
280104	RCFE SB - FS Testing and T&C	12	25MAY07A	20AUG07A	100	0	0		-209																								
Electrical Works																																	
280114	RCFE SB - Install Power Distn Panels & Test	30	10MAR07A	20AUG07A	100	0	0		-284																								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish	JUN			JUL			AUG			SEP			OCT			NOV			DEC									
										45	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10	17
<b>T&amp;C and Inspections</b>																																					
<b>SHT RC Full Enclosure / T3 Underpass</b>																																					
Statutory Inspection and Certs.																																					
EM5070	FSD insp. (SHT RC Enclosure & T3)	2	22AUG07	23AUG07	0	0	2	-220	-142																												



Record Date:31-08-2007

5-week Rolling Programme of Site Works
Rev: 0

Main project schedule table with columns for Item No., Civil Area, Portion, Work Area, Activity, Equipment, and a weekly grid from Sep-07 to Sep-30. Activities include pesticide spraying, cable laying, and routine checkings.

Legend: = Planned activity, = Work Done, = Public Holiday, R - Re-scheduled, N - New activity, A - Awaiting spatial co-ordination for TCSS installation

- Note: [1] Works depends on spatial co-ordination among related Main Contractor and TCSS. [2] Works Subject to Traffic Tube arrangement. [3] Works subject to condition of site access & civil provision. [4] Works depend on Civil Contractor to complete / rectify their provision.

Distribution: Arup-Johnny Mac, Hara,Alex C, Franco L, Hamlyn K, Joseph C, KT Chan, Patrick L, Simon Cheung, Philip C, PF Li, Sharon H, Tony C, Wilson W, Winnie M, Donald L, Johnny L, Kenny C, Thomas Wong, Andy Wong
Remark: 1) The schedule only shows the anticipated works planned and shall be subject to changes which will be reported by daily labour forecast on ad-hoc bases. 2) Should it have any query on the above activity, please approach the following personnel. R8K : KY Chan / J. Lam / A. Luk ; R8T: KY Chan / A. Kan / CK Fung / A. Luk R8K / R8T - SCT / SAT: KY Chan / YS Ma / HF Leung

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**APPENDIX C**  
**MONITORING REQUIREMENTS**

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## Appendix C - Environmental Impact Monitoring Requirements for Eagle's Nest Tunnel and Associated Works

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Air Quality	1-hour TSP	3 times every 6 days	<ul style="list-style-type: none"> <li>AM1<sup>(3)</sup> (Yew Chung Internation School / PLK Choi Kai Yau School)</li> <li>AM3<sup>(4)</sup> (Garden Villa)</li> <li>AM4 (Government Quarters)</li> </ul>	<ul style="list-style-type: none"> <li>AM1 – Rooftop<sup>(3)</sup></li> <li>AM3 – On ground</li> <li>AM4 – Ground floor close to the refuse collection station of Government Quarters</li> </ul>
	24-hour TSP	Once every 6 days		
Noise	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	<ul style="list-style-type: none"> <li>NM1<sup>(3)</sup> (Yew Chung Internation School / PLK Choi Kai Yau School)</li> <li>NM5 (Villa Carlton)</li> <li>NM6 (Government Quarters)</li> <li>NM7 (Garden Villa)</li> </ul>	<ul style="list-style-type: none"> <li>NM1 – Rooftop (Façade measurement)<sup>(3)</sup></li> <li>NM5 – Ground Floor<sup>(2)</sup> - (Façade measurement)</li> <li>NM6 – Rooftop of Refuse Collection Station (Free field measurement)</li> <li>NM7 – Rooftop (Façade measurement)</li> </ul>
	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 5 minute intervals during (1900 to 2300) <sup>(1)</sup>	Once per week (include 3 consecutive 5-min measurements)		
	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 5 minute intervals during (2300 to 0700 of next day) <sup>(1)</sup>	Once per week (include 3 consecutive 5-min measurements)		
	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 5 minute intervals during (0700 to 1900 on holidays) <sup>(1)</sup>	Once per week (include 3 consecutive 5-min measurements)		

<sup>(1)</sup> – Conduct noise monitoring only when construction work is carried out.

<sup>(2)</sup> – The measurement was taken at 2.3 m above ground floor of Villa Carlton, where has a line of sight of the construction site in the opposite.

<sup>(3)</sup> – Yew Chung International School / PLK Choi Kai Yau School (Station AM1 and NM1) had ceased operated and been demolished since February 2007. The monitoring at AM1 and NM1 has been suspended since February 2007, as approved by EPD on 26<sup>th</sup> April 2007.

<sup>(4)</sup> – Station AM3 was relocated from Garden Villa to the nearby slope no. 07SW-D/FR4 and the monitoring was resumed on 14 February 2005.

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**APPENDIX D  
ENVIRONMENTAL QUALITY  
PERFORMANCE (ACTION/LIMIT)  
LEVELS**

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## Appendix D - 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 reduce to 65 dB(A) during school examination periods.

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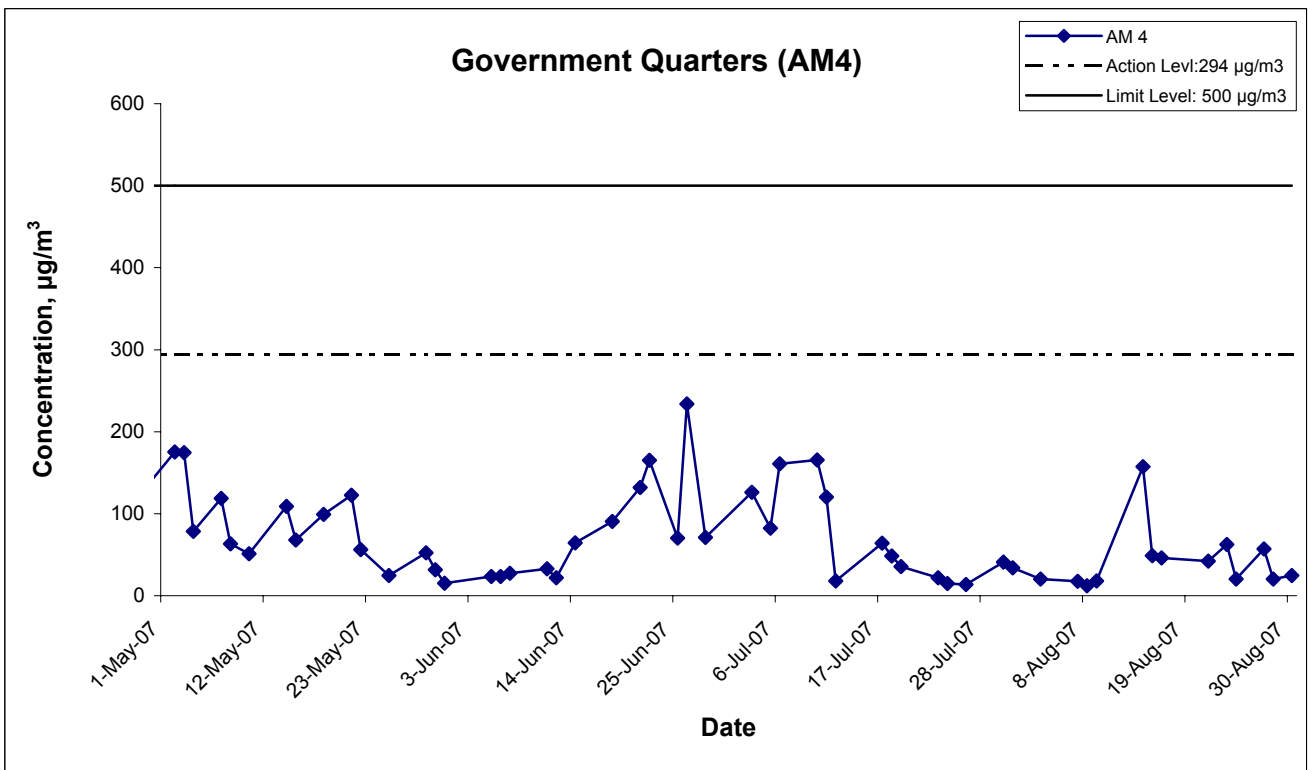
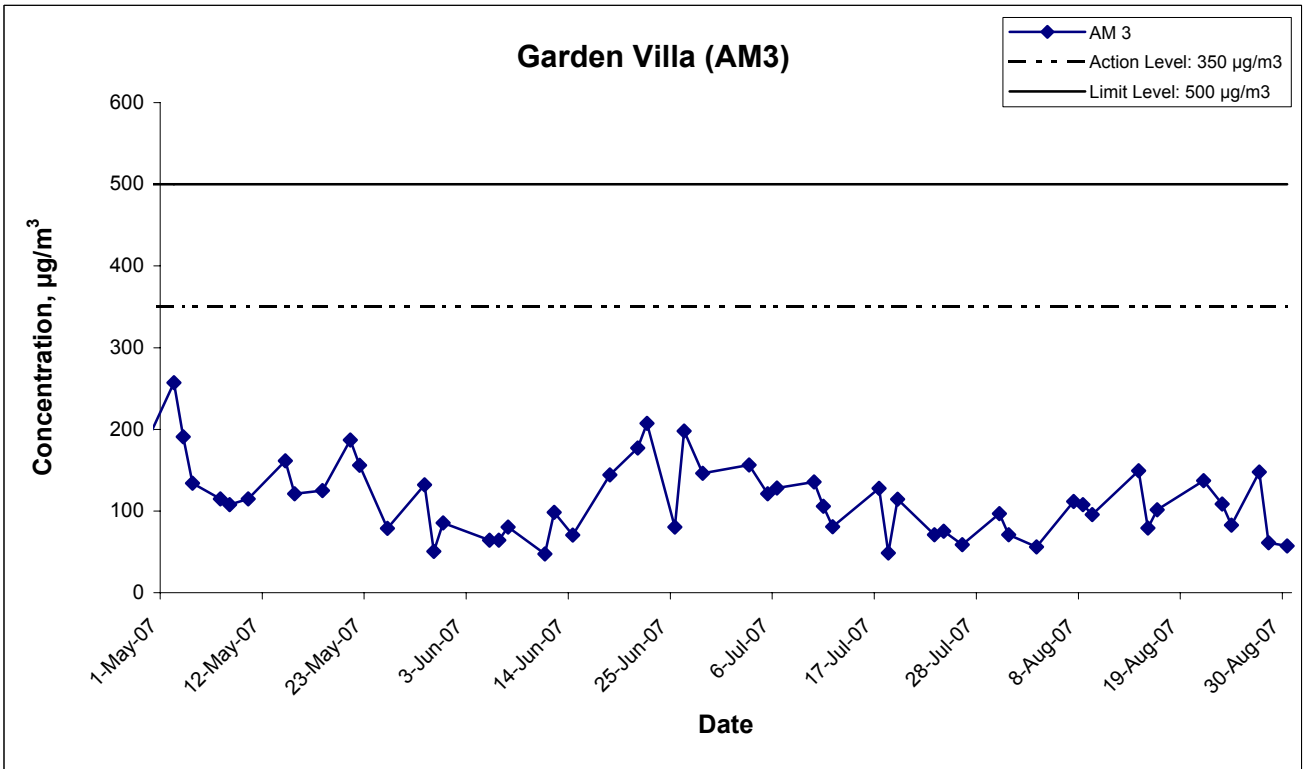
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**APPENDIX E  
GRAPHICAL PRESENTATION OF AIR  
QUALITY MONITORING RESULTS**

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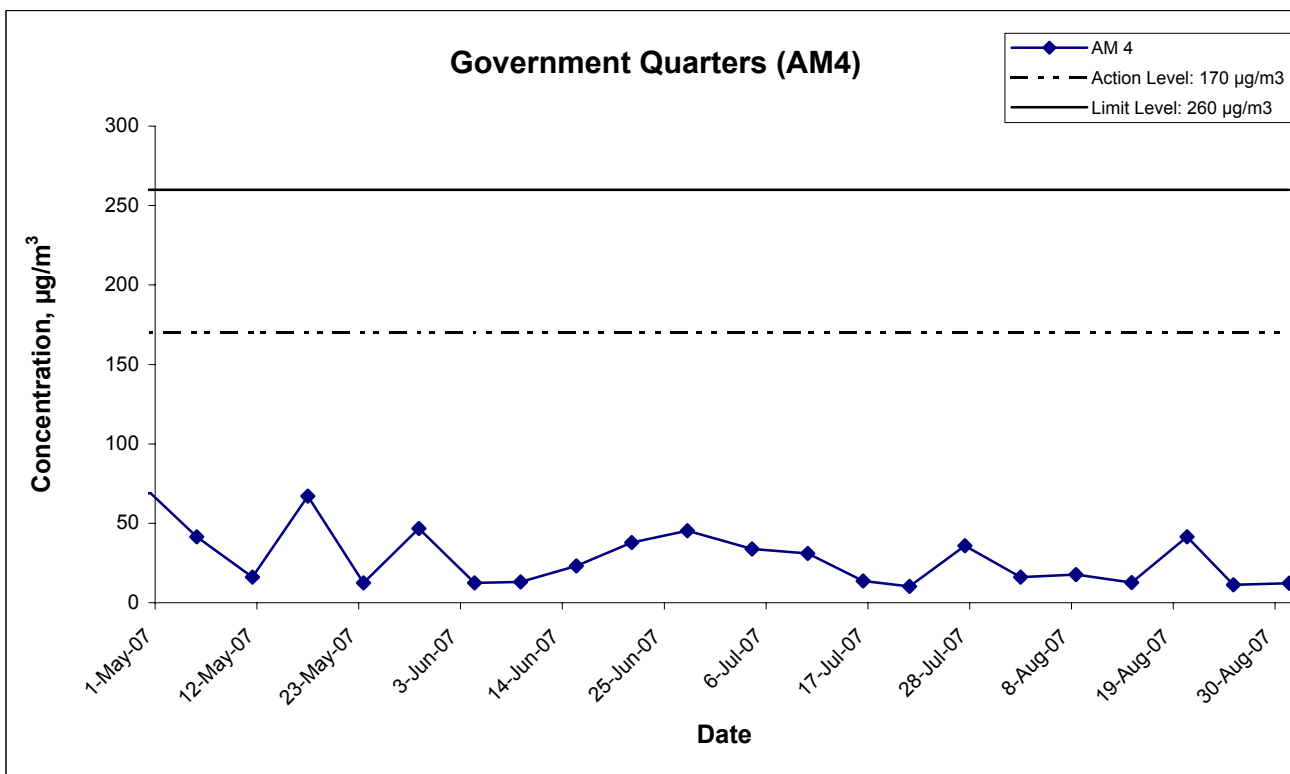
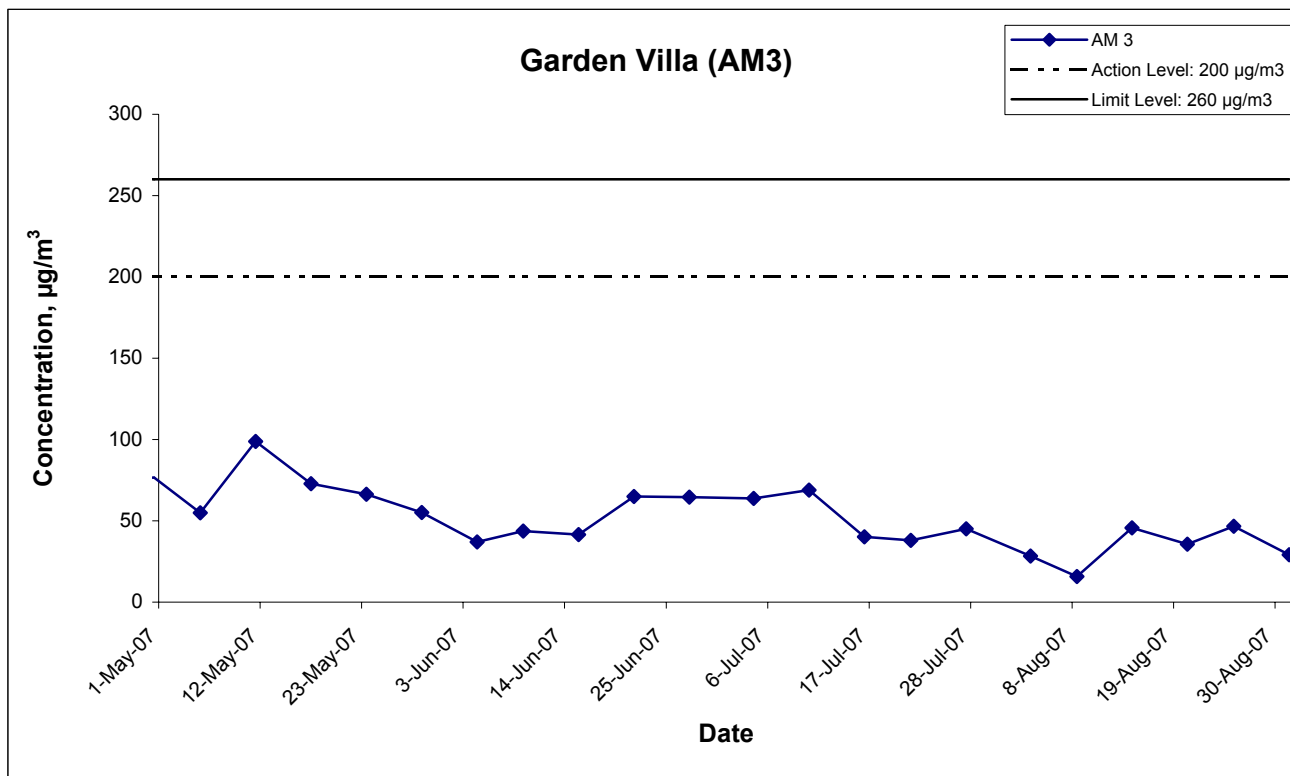
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### 1-hr TSP Levels



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 Aug 07	Appendix E	

## 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	CINOTECH
	Date Aug 07	Appendix E	

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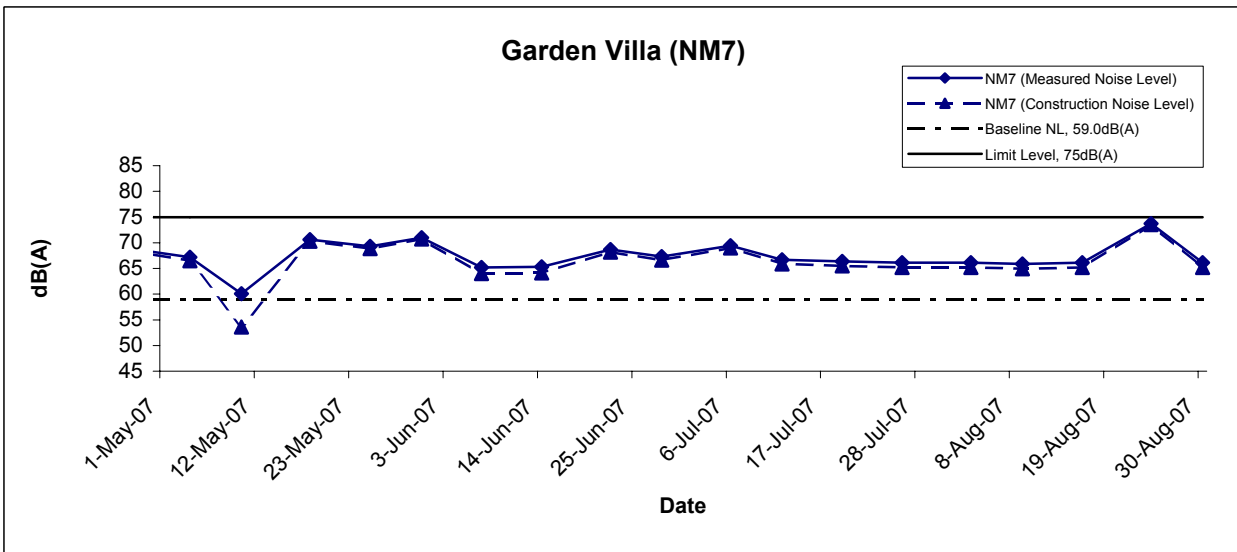
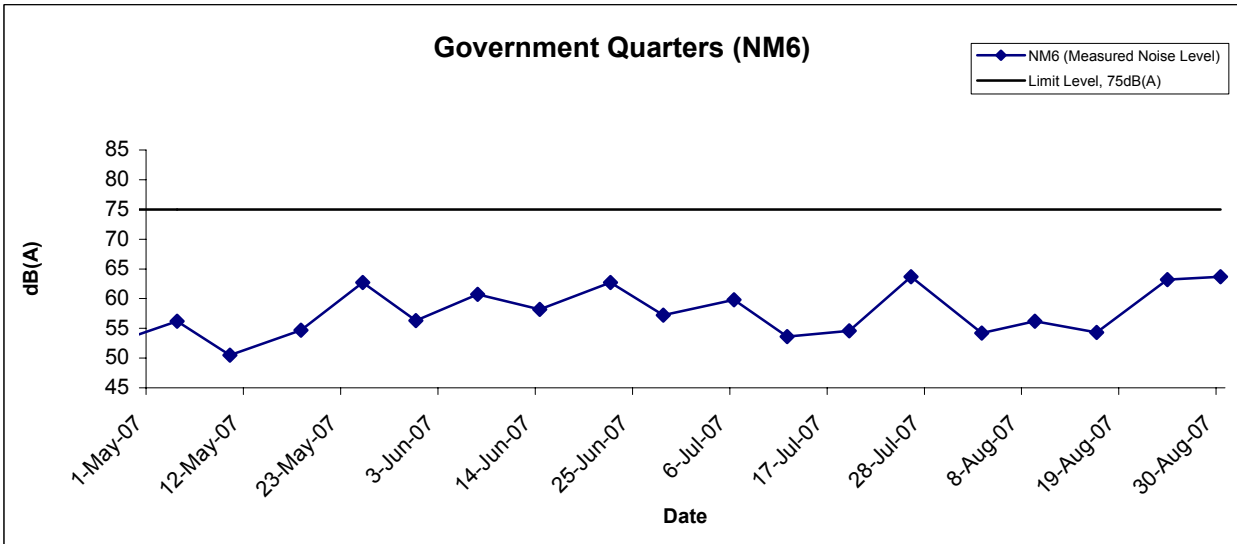
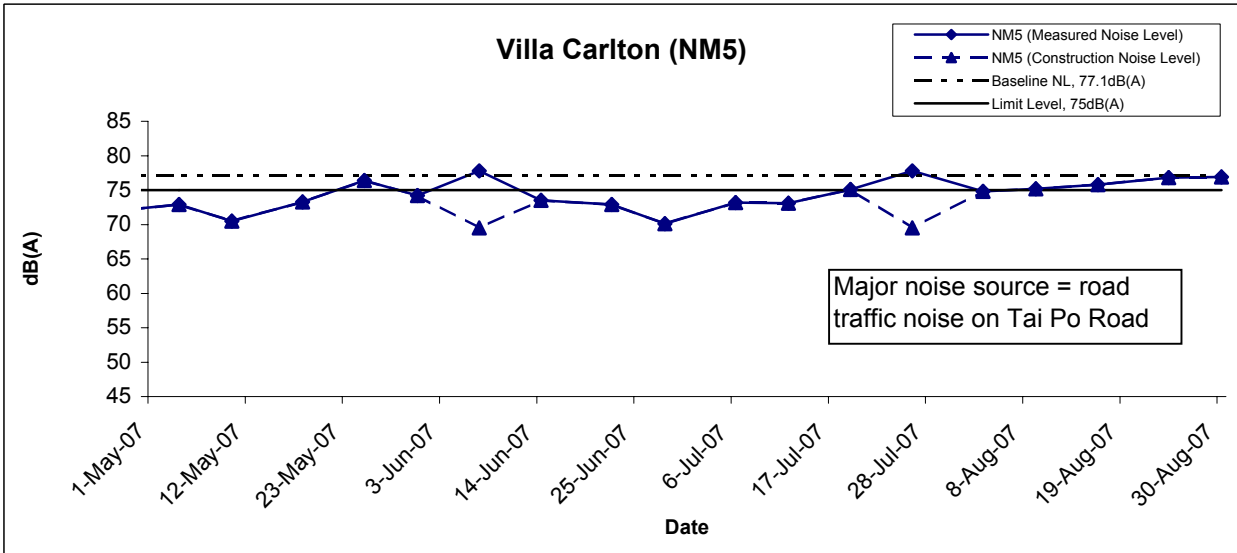
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**APPENDIX F  
GRAPHICAL PRESENTATION OF  
NOISE MONITORING RESULTS**

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### Noise Levels

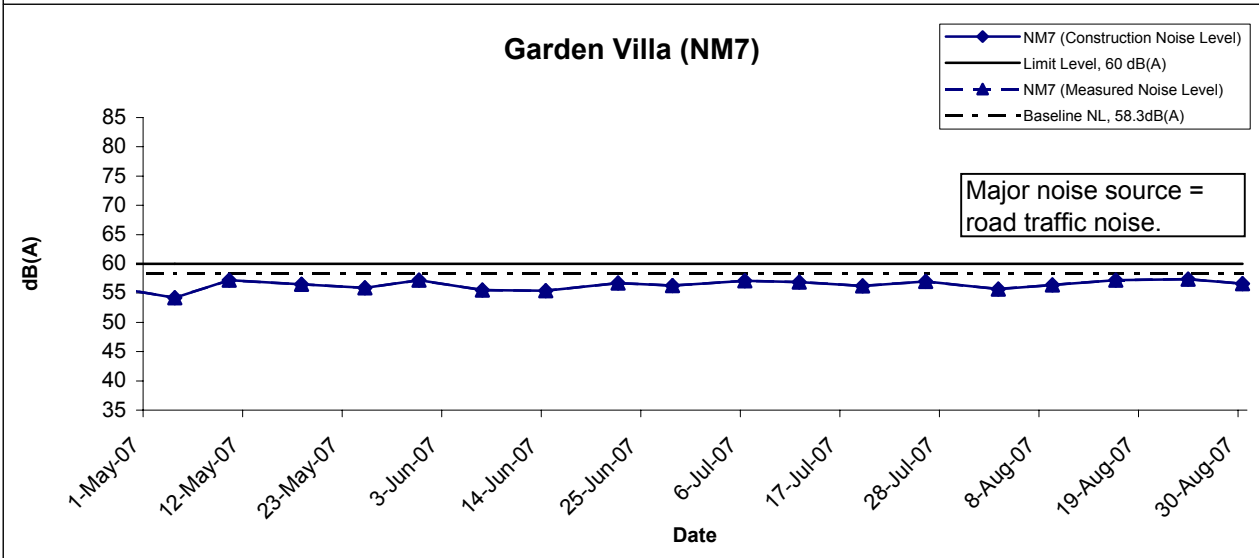
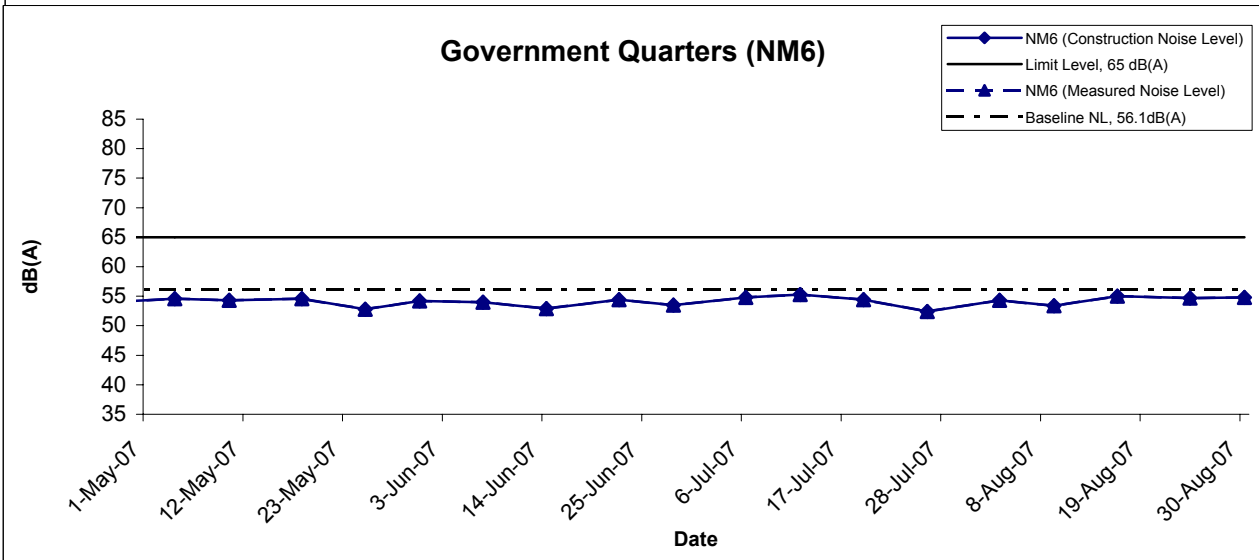
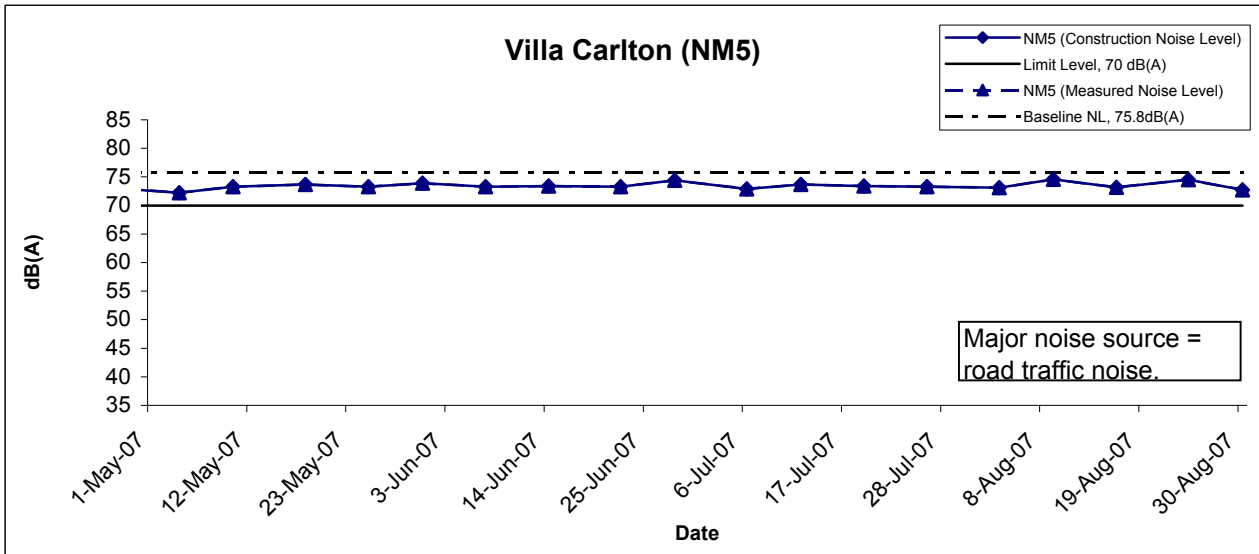


\* Construction Noise Level = Measured Noise Level - Baseline Level  
 (If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

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 Aug 07	Appendix F	



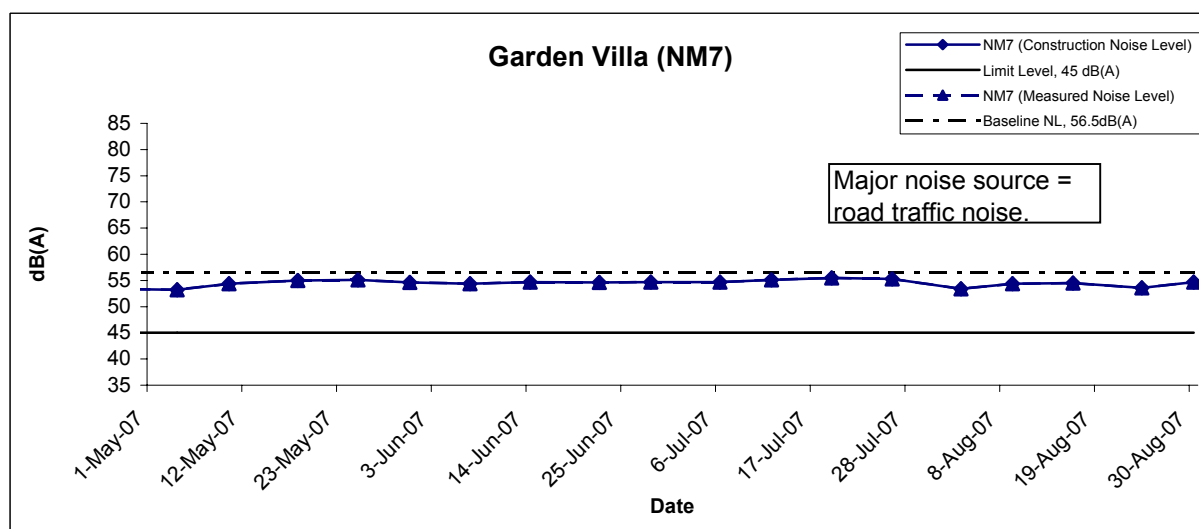
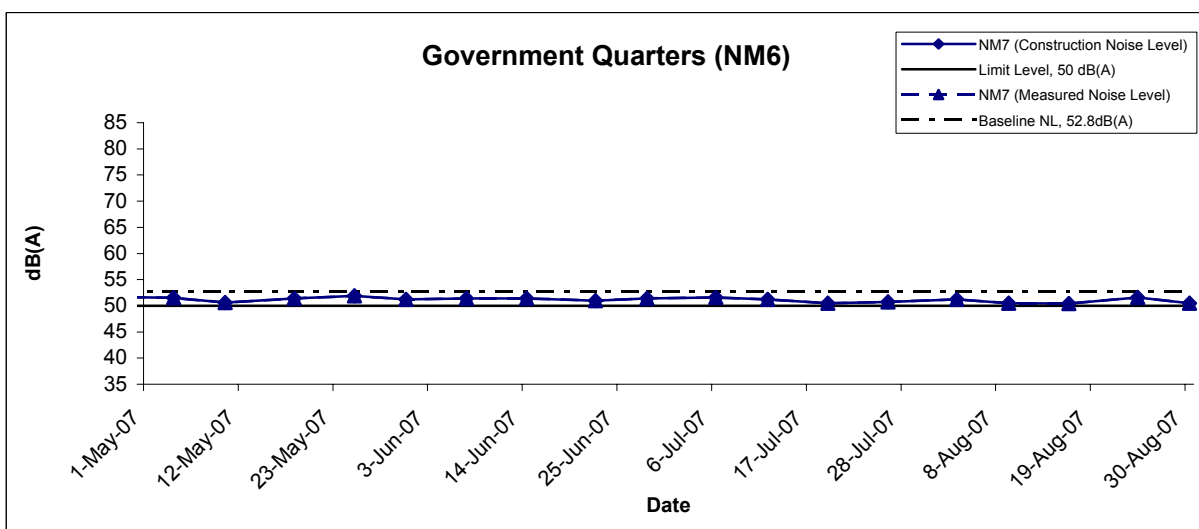
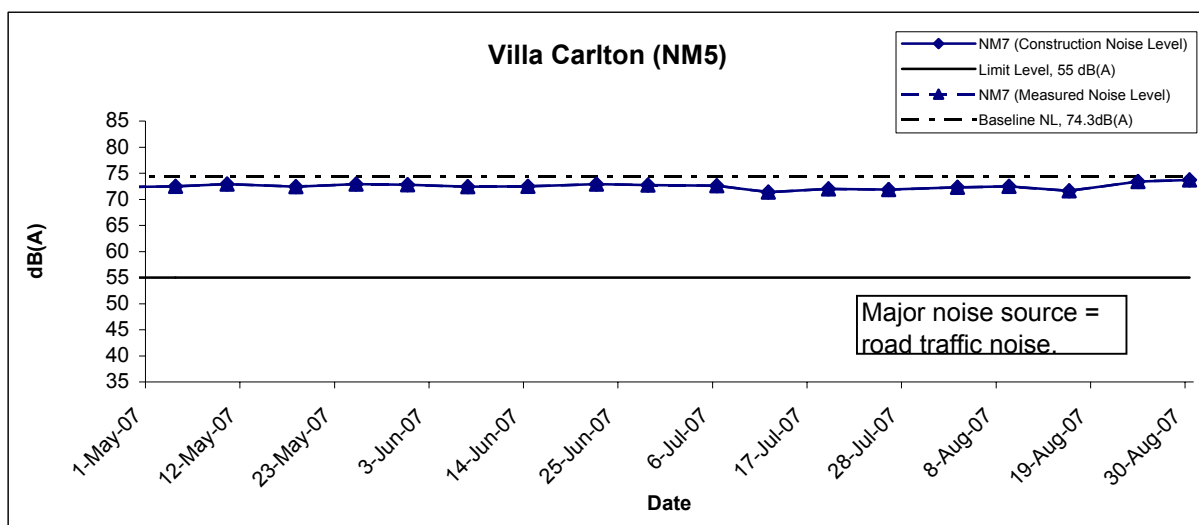
## Restricted Hours (19:00 to 23:00) - Noise Levels



\* 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	
	Date Aug 07	Appendix F	

## 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 Aug 07	Appendix F	

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**APPENDIX G  
IMPLEMENTATION SCHEDULE OF  
ENVIRONMENTAL MITIGATION  
MEASURES (EMIS)**

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## Appendix G - 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>	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
<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>	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

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> </ul>	^
	<ul style="list-style-type: none"> <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>	
<b>Waste</b>	<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>	^	
<i>Surplus Excavated Materials</i>		

Types of Impacts	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>Due to the high risk of loose material being washed into the existing nullah, stockpile materials should be properly compacted and covered from water erosion and located at least 10m away from the nullah wall.</li> </ul>	N/A
	<i>Construction and Demolition (C&amp;D) Waste</i>	
	<ul style="list-style-type: none"> <li>Careful design, planning and good site management shall be adopted to minimise over-ordering and generation of waste materials such as concrete grouts.</li> </ul>	^
	<ul style="list-style-type: none"> <li>The handling and disposal of bentonite slurries shall be undertaken in accordance with Practice Note for Professional Persons – Construction Site Drainage (ProPECC PN 1/94) on construction site drainage.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Construction and demolition (C&amp;D) material shall be segregated to inert and non-inert parts. The inert portion shall re-used at areas of reclamation or land formation, or to public filling area shall such allocation is deemed necessary. The non-inert portion shall be disposed of to landfill.</li> </ul>	^
	<i>Chemical Waste</i>	
<ul style="list-style-type: none"> <li>Chemical waste that is produce during construction shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.</li> </ul>	^	
<ul style="list-style-type: none"> <li>Containers used for the storage of chemical wastes should:           <ol style="list-style-type: none"> <li>Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Have a capacity of less than 450 litres unless the specifications have been approved by the EPD;</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations.</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li>The storage area for chemical wastes should:           <ol style="list-style-type: none"> <li>Be clearly labelled and used solely for the storage of chemical waste;</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Be enclosed on at least 3 sides;</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is largest;</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Have adequate ventilation;</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary);</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Be arranged so that incompatible materials are adequately separated.</li> </ol> </li> </ul>	^	
<ul style="list-style-type: none"> <li>Disposal of chemical waste shall be via a licensed waste collector; and to a facility licensed to receive chemical waste; or a reuser of the waste (under approval from EPD).</li> </ul>	^	
<i>General Refuse</i>		
<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> </ul>	^	

Types of Impacts	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>Reusable rather than disposable dishware shall be used if feasible.</li> </ul>	N/A
<b>Ecology</b>	<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>
<b>Landscape and Visual Impact</b>	<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>N/A</p> <p>N/A</p> <p>N/A</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 H  
SUMMARY OF ENVIRONMENTAL  
LICENCES AND PERMITS**

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## Appendix H - Summary of Environmental Licensing and Permit Status (ENT)

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>I 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-RN0564-06	7/12/06	6/6/07	<p><i>Location:</i> SHT – South Portal Tunnel near Garden Villa</p> <p><i>Time Period:</i> Any day between 2300-0700 on next day.</p>	Expired
GW-RN0575-06	7/12/06	6/6/07	<p><i>Location:</i> SHT – South Portal Tunnel near Tai Po Road and Keng Hau Road</p> <p><i>Time Period:</i> Any day between 2300-0700 on next day.</p>	Expired
GW-RN0600-06	18/12/06	17/6/07	<p><i>Location:</i> SHT - South Portal near Garden Villa</p> <p><i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).</p>	Expired

Permit No.	Valid Period		Details	Status
	From	To		
GW-RW0016-07	4/2/07	3/8/07	<i>Location:</i> Butterfly Valley <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Expired
GW-RW0017-07	6/2/07	5/8/07	<i>Location:</i> Construction site adjacent to Tai Po Road Shell Petrol Filling Station and opposite to Villa Carlton <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Expired
GW-RW0082-07	20/3/07	19/9/07	<i>Location:</i> Mui Kong Tsuen <i>Time Period:</i> 0700-2400 (general holiday including Sundays) and 1900-2400 (any day not being a general holiday).	Valid
GW-RW0089-07	25/3/07	24/9/07	<i>Location:</i> SHT-North Portal <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RN0102-07	9/4/07	8/10/07	<i>Location:</i> SHT-North Portal near Garden Villa <i>Time Period:</i> Any day between 2300-0700 on next day	Valid
GW-RN0104-07	9/4/07	8/10/07	<i>Location:</i> SHT-South Portal at Butterfly Valley <i>Time Period:</i> Anyday between 2300-0700 on next day	Valid
GW-RN0103-07	10/4/07	9/10/07	<i>Location:</i> SHT-South Portal at Butterfly Valley <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday)	Valid
GW-RN0105-07	10/4/07	9/10/07	<i>Location:</i> SHT-North Portal near Garden Villa <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday)	Valid
GW-RN0185-07	11/5/07	10/11/07	<i>Location:</i> Tunnel North Portal site near Garden Villa <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RN0230-07	06/06/07	05/12/07	<i>Location:</i> SHT-South Portal near Garden Villa <i>Time Period:</i> Any day between 2300-0700 on next day	Valid
GW-RN0231-07	06/06/07	05/12/07	<i>Location:</i> SHT-North Portal near Tai Po Road and Keng Hau Road <i>Time Period:</i> Any day between 2300-0700 on next day	Valid
GW-RN0252-07	18/06/07	17/12/07	<i>Location:</i> SHT-South Portal near Garden Villa <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RN0380-07	27/07/07	26/01/08	<i>Location:</i> Butterfly Valley, Lai Chi Kok <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid

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**APPENDIX I  
COMPLAINT LOG**

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## Appendix I - 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>	

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<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><u>Noise from blasting</u></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><u>Uncovered dump trucks</u></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

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
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>criterion 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

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50419	Government Quarters	15-Apr-05 (by EPD)  19-Apr-05 (by ET Leader)	<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

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**APPENDIX J**  
**SUMMARY OF EXCEEDANCES**

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**Summary of exceedances recorded in the reporting quarter**

- a) Exceedance Report for 1-hr TSP (NIL)*
- b) Exceedance Report for 24-hr TSP (NIL)*
- c) Exceedance Report for Construction Noise (NIL)*