**Highways Department**

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

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

## Monthly EM&A Report
## Part I – Lai Chi Kok Viaduct (Version 1)

February 2006

Approved By _____

(Environmental Team Leader)

REMARKS:

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

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

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## TABLE OF CONTENTS


**EXECUTIVE SUMMARY ..... 1**

Introduction ..... 1
Environmental Monitoring and Audit Works ..... 1
Environmental Licenses and Permits ..... 1
Key Information in the Reporting Month ..... 1

**1. INTRODUCTION ..... 3**

Background ..... 3
Project Organizations ..... 4
Construction Programme ..... 4
Summary of EM&A Requirements ..... 5

**2. AIR QUALITY ..... 6**

Monitoring Requirements ..... 6
Monitoring Locations ..... 6
Monitoring Equipment ..... 6
Monitoring Parameters, Frequency and Duration ..... 6
Monitoring Methodology and QA/QC Procedure ..... 7
Results and Observations ..... 8

**3. NOISE ..... 9**

Monitoring Requirements ..... 9
Monitoring Locations ..... 9
Monitoring Equipment ..... 10
Monitoring Parameters, Frequency and Duration ..... 10
Monitoring Methodology and QA/QC Procedures ..... 10
Maintenance and Calibration ..... 11
Results and Observations ..... 11

**4. ENVIRONMENTAL AUDIT ..... 12**

Site Audits ..... 12
Review of Environmental Monitoring Procedures ..... 12
Status of Environmental Licensing and Permitting ..... 12
Implementation Status of Environmental Mitigation Measures ..... 12
Summary of Exceedances ..... 15
Implementation Status of Event Action Plans ..... 15
Summary of Complaint and Prosecution ..... 16

**5. FUTURE KEY ISSUES ..... 17**

Key Issues for the Coming Month ..... 17
Monitoring Schedule for the Next Month ..... 17
Construction Program for the Next Month ..... 17

**6. CONCLUSIONS AND RECOMMENDATIONS ..... 18**

Conclusions ..... 18
Recommendations ..... 18

## LIST OF TABLES


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


## LIST OF FIGURES


| | |
|---|---|
| Figure 1 | Locations of Monitoring Stations |


## LIST OF APPENDICES


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

## ABBREVIATION AND ACRONYM

| | |
|---|---|
| AL Levels | Action and Limit Levels |
| CEDD | Civil Engineering and Development Department |
| E / ER | Engineer/Engineer's Representative |
| EIA | Environmental Impact Assessment |
| EM&A | Environmental Monitoring and Audit |
| EMIS | Environmental Mitigation Implementation Schedule |
| EP | Environmental Permit |
| EPD | Environmental Protection Department |
| ET | Environmental Team |
| HVS | High Volume Sampler |
| HyD | Highways Department |
| IEC | Independent Environmental Checker |
| NOE | Notification of Exceedancne |
| QA/QC | Quality Assurance / Quality Control |
| RE | Resident Engineer |
| RH | Relative Humidity |
| SLM | Sound Level Meter |
| TSP | Total Suspended Particulates |

# EXECUTIVE SUMMARY

## Introduction

- This is the twenty-seventh monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin, Lai Chi Kok Viaduct & Eagle's Nest Tunnel". This report documents the findings of EM&A Works conducted in February 2006 for Contract No. HY/2003/01, Lai Chi Kok Viaduct (the Project).

- The major site activities undertaken in the reporting month included excavation works, slope works, segment and parapet erection works.

## Environmental Monitoring and Audit Works

- Environmental monitoring and audit works for the Project was performed regularly as stipulated in the updated EM&A Manual and the results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

- Summary of the events and action taken in the reporting month is tabulated in **Table I**.

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

| Parameter | No. of Events | | No. of Events Due to the Project | Action Taken |
|---|---|---|---|---|
| | Action Level | Limit Level | | |
| 1-hr TSP | 0 | 0 | 0 | N/A |
| 24-hr TSP | 0 | 0 | 0 | N/A |
| Noise | 4 | 0 | 0 | Complaint investigation |

## Environmental Licenses and Permits

- Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, the Water Discharge Licenses (WDLs) and the Construction Noise Permits (CNPs). Six new CNPs were issued to the Project in the reporting month.

## Key Information in the Reporting Month

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

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

| Event | Event Details | | Action Taken | Status | Remark |
|---|---|---|---|---|---|
| | Number | Nature | | | |
| Complaint received | 4 | Noise | Complaint investigation | Closed | --- |
| 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 | --- |

**Future Key Issues:**

Major site activities for the coming month include:

- Construction of abutment and columns;
- Bulk excavation;
- Rock dowels installation;
- Soil nail installation;
- Retaining wall construction;
- Drainage works;
- Cast in-situ of slip roads; and
- Segment erection by lifting frame and launching gantry.

The anticipated environmental impacts will be mainly on noise impact from excavation works and water quality impact during rainy days.

# 1. INTRODUCTION

## Background

1.1 Route 9 (Kowloon Section) (R9K) (hereinafter call the R9K-Project) forms part of the Route 9 between Cheung Sha Wan and Sha Tin (R9-CSWST) project, which will be a new expressway connecting West Kowloon and Sha Tin. It will be the fourth external link between Sha Tin and Kowloon and will form an important link between the northeast New Territories and the west Kowloon, Lantau Island and the western New Territories. R9K is being managed and implemented by the Highways Department (HyD).

1.2 The engineering design of R9K is covered under Agreement No. CE 50/98 "Route 9 between Cheung Sha Wan and Sha Tin – Design Construction Assignment". The main consultant engaged under Agreement No. CE 50/98 is Maunsell Hyder Joint Venture (MHJV), who 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. 499) (EIAO). An environmental impact assessment (EIA) report has been prepared in 1998 for the R9-CSWST project (1998 R9 EIA) to consider the key issues of noise, air quality, water quality, ecological, construction waste, landscape and visual, land use and cultural impacts, and identify possible mitigation measures.

1.4 An Updated Final EIA report was subsequently completed in August 1999 for the R9-CSWST project (1999 R9 EIA), to cater for some changes in R9K portion as mentioned in paragraph 1 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 and a varied EP No. EP-103/2001/A was subsequently issued on 20 May 2003 for R9K (R9K EP) to HyD as Permit Holder. A varied EP-103/2001/C was recently issued on 22 July 2005.

1.6 The major construction activities of two civil contracts of the R9K project, Contract No. HY/2003/01 entitled "Route 9 – Lai Chi Kok Viaduct" and Contract No. HY/2003/02 entitled "Route 9 – Eagle's Nest Tunnel and Associated Works", were commenced in 15th 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 between Cheung Sha Wan and Sha Tin - Environmental Team (ET) for Lai Chi Kok Viaduct and Eagle's Nest Tunnel (Contract No. HY/2003/10)". Dr. Priscilla CHOY of Cinotech Consultants Ltd. was appointed as the ET Leader under Condition 2.2 of the EP. Mr. David YEUNG of CH2M-IDC Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the twenty-seventh monthly EM&A report summarizing the EM&A works for the Project in February 2006.

**Project Organizations**

1.8 Different parties with different levels of involvement in the project organization include:

- Project Proponent – Major Works Project Management Office (MWPMO) of Highways Department (HyD)
- Engineer (E) / Engineer's Representative (ER) – Maunsell-Hyder Joint Venture
- Environmental Team (ET) – Cinotech Consultants Limited
- Independent Environmental Checker (IEC) – CH2M-IDC Hong Kong Limited
- Contractor – Acciona Infraestructuras S.A.

1.9 The responsibilities of respective parties are detailed in Section 1.8.3 of the EM&A Manual (1999) of the Project.

1.10 The key contacts of the Project are shown in **Table 1.1**.

**Construction Programme**

1.11 The site activities undertaken in the reporting month were:

- Construction of abutments and pile caps at Slip Roads C and D, Lai Wan Overpass and Main Viaduct;
- Bulk excavation works and retaining wall construction at CCR-R1 and LCK-R2;
- Bulk excavation works at slopes CCR-S1, CCR-S4 and CCR-R3;
- Rock dowel installation at slopes CCR-S1 and CCR-R2;
- Retaining wall construction at CCR-R2, CCR-R3 and CCR-R5;
- Drainage works at Rest Garden area, Hoi Lai Estate, Piers B1 and P5;
- Segment erection by lifting frame at P20 and Slip Roads B & D;
- Cast in-situ of Slip Road C;
- Parapet erection along slip road A; and
- Segment erection at Main Viaduct by launching gantry at night at Piers P16 and P17.

**Summary of EM&A Requirements**

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

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

**Table 1.1 Key Project Contacts**

| Party | Role | Name | Position | Phone No. | Fax No. |
|---|---|---|---|---|---|
| HyD | Permit Holder | Mr. Kroc Leung | SE2/R8K | 2762 3662 | 2714 5198 |
| | | Mr. Esther Yung | E1/R8K | 2762 3677 | |
| | | Mr. LC Chung | E2/R8K | 2762 3613 | |
| MHJV | Engineer | Mr. Conrad Ng | Project Manager | 2605 6262 | 2691 2649 |
| | Engineer's Representative | Mr. D.F. Lilliman | CRE | 2959 0010 | 2959 0290 |
| | | Mr. Henry Liu | SRE | 2991 1068 | |
| | | Mr. Joseph Chi | RE | 2991 1034 | |
| Cinotech | Environmental Team | Dr. Priscilla Choy | The ET Leader | 2151 2089 | 3107 1388 |
| | | Mr. KK Chan | Audit Team Leader | 2151 2077 | |
| | | Mr. Henry Leung | Monitoring Team Leader | 2151 2087 | |
| CH2M-IDC | Independent Environmental Checker | Mr. David Yeung | Independent Environmental Checker | 2872 2934 | 2507 2293 |
| | | Mr. Billy Yu | Assistant Independent Environmental Checker | 2872 2949 | |
| Acciona | Contractor | Mr. Rafael Rubio | Project Director | 2956 3300 | 2956 3331 |
| | | Mr. Lawrence Kwok | QA/E Manager | | |
| 24-hour Emergency Hotline | | | | 2370 9200 | - |

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

1.14 This report presents the environmental monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely dust and noise levels and audit works for the Project in February 2006.

## 2. AIR QUALITY

### Monitoring Requirements

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

### Monitoring Locations

2.2 One designated monitoring station, AM2 was selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring location, which is also depicted in **Figures 1**.

**Table 2.1 Locations for Air Quality Monitoring**

| Monitoring Station | Description | Location |
|---|---|---|
| AM2 | Lai Chi Kok Park Sports Centre | Rooftop |

### Monitoring Equipment

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

**Table 2.2 Air Quality Monitoring Equipment**

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

### Monitoring Parameters, Frequency and Duration

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

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

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

## Monitoring Methodology and QA/QC Procedure

Instrumentation

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

Operating/Analytical Procedures

2.6 Operating/analytical procedures for the operation of HVS were as follows:

- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The sampler was more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

2.7 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 $m^3$/min. and 1.4 $m^3$/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

2.8 For TSP sampling, fiberglass filters (G810) were used.

2.9 The power supply was checked to ensure the sampler worked properly.

2.10 On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

2.11 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

2.12 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

2.13 The shelter lid was closed and secured with the aluminum strip.

2.14 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

2.15 After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.

2.16 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.17 The following maintenance/calibration was required for the HVS:

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

**Results and Observations**

2.18 All TSP monitoring was conducted as scheduled in this reporting month.

2.19 No Action/Limit Level exceedance was recorded for both 1-hr and 24-hr TSP monitoring.

2.20 Wind data monitoring equipment has been installed in Shatin Heights for logging wind speed and wind direction. These wind data for the reporting month is summarized in **Appendix D**.

2.21 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E** and **F**, respectively.

# 3. NOISE

## Monitoring Requirements

3.1 Monitoring and audit of construction noise levels is required to be conducted, in accordance with the EM&A Manual, to ensure that any unacceptable noise impacts could be readily detected and timely and appropriate action be undertaken to rectify the situation.

3.2 The construction noise levels shall be measured in terms of the A-weighted equivalent continuous sound pressure level (Leq). Leq (30min) shall be used as the monitoring parameter for the time period between 0700-1900 hours on normal weekdays. For all other time periods, Leq (5min) shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. As supplementary information for data auditing, statistical results such as $L_{10}$ and $L_{90}$ shall also be obtained for reference.

3.3 Four designated noise monitoring stations, namely NM4, NM8a, NM8b and NM9 were selected for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

## Monitoring Locations

3.4 Noise monitoring was conducted at five designated monitoring stations as summarized in **Table 3.1**. **Figures 1** show the locations of these stations.

**Table 3.1 Noise Monitoring Stations**

| Stations* | Description | Location |
|---|---|---|
| NM4 | Mei Foo Sun Chuen, Phase 5 | Rooftop of Block 9 |
| NM8a | Nob Hill | M/F of Car Park |
| NM8b | Nob Hill | 3/F of Car Park |
| NM9 | Hoi Lai Estate | G/F of Hoi Fai House |

(1) Renovation work was undertaken at the Lai Chi Kok Reception Centre (NM2) and the centre was found vacated. The noise monitoring was suspended since December 2004. Approval for the change of EM&A Programme was granted by EPD on 30th December 2004.

(2) The Lai Chi Kok Hospital (NM3) was also found vacated and noise monitoring has been suspended since January 2005, as approved by EPD on 15th March 2005.

3.5 Stations NM8a and NM8b were installed at Nob Hill in May 2004. Station NM8b is located at 3/F of the car park of Nob Hill, which is strongly influenced by traffic noise from Ching Cheung Road. The measurement at this station is for reference purpose, but not for compliance check of construction noise. The measured noise level at Station NM8a, which is located at M/F of car park and closer to the construction site, acts as an indicator of the construction noise. Since the domestic premises are located above 5/F, noise assessment would be performed to assess the level of nuisance resulting from the construction noise at the domestic premises whenever the measured noise level at NM8a exceeds the noise limit level.

3.6 A new housing estate, Hoi Lai Estate, became one of the noise sensitive receivers close to the Project site. As recommended by the Regional (West) Office of EPD, noise monitoring at this location (Station NM9) was newly included in the EM&A programme. Approval for the change of EM&A programme was granted by EPD on 30th December 2004.

**Monitoring Equipment**

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

**Table 3.2 Noise Monitoring Equipment**

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

**Monitoring Parameters, Frequency and Duration**

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

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

| Stations | Parameter | Period | Frequency | Measurement |
|---|---|---|---|---|
| NM4 | $L_{10}$(30 min.)dB(A)<br>$L_{90}$(30 min.)dB(A)<br>$L_{eq}$(30 min.)dB(A) | 0700-1900 hrs. on weekdays | Once per week | Façade |
| NM8a | | | | Façade |
| NM8b | | | | Façade |
| NM9 | | | | Façade |

**Monitoring Methodology and QA/QC Procedures**

- The Sound Level Meter was generally set on a tripod at a height of 1.2 m above the ground, depending to the actual monitoring condition.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.

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

**Maintenance and Calibration**

3.9 The microphone head of the sound level meter and calibrator was cleaned with soft cloth regularly.

3.10 The meters were sent to the supplier to check and calibrate on a yearly interval.

**Results and Observations**

3.11 Noise monitoring was performed at the four designated locations as scheduled in this reporting month.

3.12 All the Construction Noise Levels (CNLs) reported in this report, except those collected at Stations NM8a, NM8b and NM9, 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.

3.13 Noise monitoring results and graphical presentations are shown in **Appendix G**.

3.14 Four Action Level exceedances were recorded due to noise complaints received on 13$^{th}$, 16$^{th}$, 20$^{th}$ and 22$^{nd}$ February 2006. No Limit Level exceedance was recorded in the reporting month.

3.15 At Stations NM4, NM8a and NM8b, the major noise source identified during the monitoring exercises was mainly the road traffic noise.

3.16 At Station NM9, construction noise from the Project and occasionally the traffic noise were identified as the major noise source during monitoring.

# 4. ENVIRONMENTAL AUDIT

## Site Audits

4.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix I**.

4.2 Site audits were conducted on 2nd, 6th, 16th and 23rd February 2006 by ET. The audit session on 6th February 2006 was conducted with the representatives of HyD, IEC, ER, the Contractor and ET.

## Review of Environmental Monitoring Procedures

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

*Air Quality Monitoring*

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

*Noise Monitoring*

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

## Status of Environmental Licensing and Permitting

4.4 All permits/licenses obtained for the Project are summarized in **Table 4.1**. Six new CNPs were issued to the Project in the reporting month.

## Implementation Status of Environmental Mitigation Measures

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

## Table 4.1 Summary of Environmental Licensing and Permit Status

| Permit No. | Valid Period | | Details | Status |
|---|---|---|---|---|
| | From | To | | |
| **Environmental Permit (EP)** | | | | |
| EP-103/2001/C | 22/7/05 | N/A | Construction and operation of<br>(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;<br>(b) All E&M works (including ventilation, Traffic Control & Surveillance System (TCSS), toll collection system and lighting) for the whole Route 9 between Cheung Sha Wan and Sha Tin;<br>(c) The permanent slope works above the northern portal of the Eagle's Nest Tunnel;<br>(d) The architectural works (including fitting out and furnishings) of the portal buildings of the Sha Tin Heights Tunnel. | Valid |
| **Registration of Chemical Waste Producer** | | | | |
| WPN 5213-261-N2413-04 | 17/11/03 | N/A | N/A | Valid |
| **Water Discharge Lisence** | | | | |
| EP482/260/251/1 | 05/12/03 | 31/12/08 | Discharge of industrial trade effluent arising from the construction site at Route 9 – Lai Po Road Section of Lai Chi Kok Viaduct (Contract HY/2003/01). | Valid |
| EP482/260/251/2 | 15/12/03 | 31/12/08 | Discharge of industrial trade effluent arising from the construction site at Route 9 – Lai Chi Kok Viaduct excluding Lai Po Road Section. | Valid |
| **Construction Noise Permit (CNP)** | | | | |
| GW-RW0563-05 | 02/09/05 | 01/03/06 | *Location:* Ching Cheung Road near Mei Foo Sun Chuen<br>*Time Period:* General holidays (including Sundays) between 0700-2300 hours and any other days between 1900-2300 hours | Valid |
| GW-RW0648-05 | 07/10/05 | 06/04/06 | *Location:* Junction of Ching Cheung Road and Castle Peak Road<br>*Time Period:* General holidays (including Sundays) between 0700-2300 hours and any other days between 1900-2300 hours | Valid |
| GW-RW0662-05 | 17/10/05 | 16/03/06 | *Location:* Junction of Ching Cheung Road and Castle Peak Road<br>*Time Period:* Any day not being a general holiday between 2100-0700 hours | Valid |
| GW-RW0699-05 | 7/11/05 | 5/5/06 | *Location:* Lai Po Road near West Kowloon Highway<br>*Time Period:* Any day not being a general holiday between 2100-0700 hours | Valid |

| Permit No. | Valid Period | | Details | Status |
|---|---|---|---|---|
| | From | To | | |
| GW-RW0716-05 | 9/11/05 | 31/3/06 | *Location:* Kwai Chung Road and Butterfly Valley Road<br>*Time Period:* Whole day of general holidays (including Sundays) and any other days between 1900-0700 hours on next day | Valid |
| GW-RW0738-05 | 15/11/05 | 14/05/06 | *Location:* Lai Po Road near Hoi Lai Estate<br>*Time Period:* General holidays (including Sundays) between 0700-2300 hours and any other days between 1900-2300 hours | Valid |
| GW-RW0739-05 | 19/11/05 | 31/03/06 | *Location:* Yuet Lun Street, Kwai Chung Road & Butterfly Valley Road<br>*Time Period:* Any day not being a general holiday between 2100-0700 hours | Valid |
| GW-RW0740-05 | 16/11/05 | 14/05/06 | *Location:* Lai Po Road near Yuet Lun Street<br>*Time Period:* Whole day of general holidays (including Sundays) and any other days between 1900-0700 hours on next day | Valid |
| GW-RW0745-05 | 18/11/05 | 17/05/06 | *Location:* Ching Cheung Road near LCK Swimming Pool<br>*Time Period:* Whole day of general holidays (including Sundays) and any other days between 1900-0700 hours on next day | Valid |
| GW-RW0757-05 | 23/11/05 | 31/03/06 | *Location:* Ching Cheung Road near LCK Power Substation<br>*Time Period:* Whole day of general holidays (including Sundays) and any other days between 1900-0700 hours on next day | Valid |
| GW-RW0824-05 | 25/12/05 | 23/04/06 | *Location:* Kwai Chung Road<br>*Time Period:* General holidays (including Sundays) between 0900-2100 hrs | Valid |
| GW-RW0825-05 | 20/12/05 | 19/05/06 | *Location:* Butterfly Valley<br>*Time Period:* General holidays (including Sundays) between 0000-2400 hours from 20/12/05 to 9/1/06, general holidays (including Sundays) between 0000-2300 hours from 10/1/06 to 19/5/06 and any other days between 1900-0700 hours on next day | Valid |
| GW-RW0844-05 | 15/1/06 | 14/06/06 | *Location:* Butterfly Valley<br>*Time Period:* Whole day of general holidays (including Sundays) and any other days between 1900-0700 hours on next day | Valid |
| GW-RW0867-05 | 3/2/06 | 2/8/06 | *Location:* Hing Wah Street West (Jetty Area)<br>*Time Period:* Whole day of general holidays (including Sundays) and any other days between 1900-0700 hours on next day | Valid |

| Permit No. | Valid Period | | Details | Status |
|---|---|---|---|---|
| | From | To | | |
| GW-RW0046-06 | 3/2/06 | 2/8/06 | *Location:* Butterfly Valley Road near LCK Reception Centre<br>*Time Period:* Whole day of general holidays (including Sundays) and any other days between 1900-0700 hours on next day | Valid |
| GW-RW0056-06 | 6/2/06 | 5/8/06 | *Location:* Lai Wan Road<br>*Time Period:* Any day not being a general holiday between 2100-0700 hours | Valid |
| GW-RW0083-06 | 18/2/06 | 17/8/06 | *Location:* Ching Cheung Road near Mei Foo Sun Chuen<br>*Time Period:* General holidays (including Sundays) between 0700-2300 hours and any other days between 1900-2300 hours | Valid |
| GW-RW0090-06 | 21/2/06 | 19/8/06 | *Location:* Castle Peak Road near Kom Tsun Street<br>*Time Period:* Any day not being a general holiday between 2300-0700 hours | Valid |
| GW-RW0091-06 | 19/2/06 | 13/8/06 | *Location:* Ching Cheung Road near CLP Substation<br>*Time Period:* General holidays (including Sundays) between 0900-2100 hrs | Valid |
| GW-RW0093-06 | 26/2/06 | 21/5/06 | *Location:* Ching Cheung Road near Lai Wan Road<br>*Time Period:* General holidays (including Sundays) between 0700-1900 hrs | Valid |

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

**Summary of Exceedances**

1-hr TSP Monitoring

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

24-hr TSP Monitoring

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

Construction Noise Monitoring

4.9 Four Action Level exceedances were recorded due to noise complaints received on 13th, 16th, 20th and 22nd February 2006. No Limit Level exceedance was recorded in the reporting month.

**Implementation Status of Event Action Plans**

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

## Table 4.2 Observations and Recommendations of Site Audits

| Parameters | Date | Observations and Recommendations | Follow-up |
|---|---|---|---|
| ***Water Quality*** | 6-Feb-06 | The temporary drainage system and the associated desilting facilities at the entrance of R2 were found inadequate. The Contractor was reminded to review the drainage system and provide sufficient desilting for the surface runoff and wheel wash water before discharge. | The situation was found improved / rectified during the audit on 16-Feb-06. |
| ***Air Quality*** | 16-Feb-06 | The access road at the exit of Mui Kong Tsuen site was deposited with dusty materials. The Contractor was reminded to keep the access road clean. | The situation was found improved / rectified during the audit on 23-Feb-06. |
| | 16-Feb-06 | Dark smoke emission from a drilling machine was observed at Slope S1. The Contractor was reminded to keep the equipment well-maintained. | The situation was found improved / rectified during the audit on 23-Feb-06. |
| ***Chemical Management*** | 2-Feb-06 | Oil stain was observed on road at Mui Kong Tsuen. The Contractor was reminded to collect the stained soil. | The situation was found improved / rectified during the audit on 6-Feb-06. |
| | 6-Feb-06 | Refuse was found scattering under the slip road near Abutment A. The Contractor was reminded to keep the site area tidy. | The situation was found improved / rectified during the audit on 16-Feb-06. |

### Summary of Complaint and Prosecution

4.11 Four environmental complaints were received in this reporting month. Three of them were referred by EPD on 13th, 20th and 22nd February 2006 and the other one was referred by HyD via MHJV on 16th February 2006:

- All about construction noise due to night works at Lai Po Road near Hoi Lai Estate.
- According to RSS's information, night works were undertaken by the Contractor under valid CNPs for the segment erection works.
- Ad-hoc night inspection was performed on 16th February 2006 by ET. Noise measurement was undertaken and most of the measured noise levels were below the noise criteria. Major noise source identified was the road traffic noise from Sham Mong Road and Lai Po Road.
- As mitigation, the Contractor turned off the alarm sound of tractor, which serves as a safety measures during backward movement.
- The complaint was considered not justifiable and reply to EPD was made on 21st February and 3rd March 2006.

4.12 There were 22 environmental complaints and 1 prosecution received since the commencement of the Project. The Complaint Log is attached in **Appendix M**.

# 5. FUTURE KEY ISSUES

## Key Issues for the Coming Month

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

- Surface runoff generated at the areas S4, R2 and R3 during rainy days;
- Dust generation from stockpiles of dusty materials, exposed slope surfaces, breaking works, excavation works and soil nail installations at CCR-S1, S4, R1 to R3;
- Construction noise from slope works at S4 and excavation works at R2 and R3;
- Standing water accumulated within the site after rains.
- Nighttime construction noise from segment transportation and segment erection at Lai Po Road.

## Monitoring Schedule for the Next Month

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

## Construction Program for the Next Month

5.3 The major construction activities in coming months include:

- Construction of abutments at Slip Roads C, C and column at Slip Road C;
- Bulk excavation works, rock dowels installation and soil nails installation at slope CCR-S1;
- Bulk excavation works and soil nails installation at slope CCR-S4;
- Bulk excavation works and retaining wall construction at CCR-R1 and CCR-R3;
- Drainage works at Rest Garden area, Hoi Lai Estate, Piers B1 and P5;
- Segment erection by lifting frame at P19 and Slip Roads C and D;
- Segment erection by launching gantry at night at Pier P17;
- Cast in-situ of Slip Road C; and
- Cast in-situ and precast segment erection at Slip Road D.

5.4 The tentative construction program for the Project is provided in **Appendix L**.

# 6. CONCLUSIONS AND RECOMMENDATIONS

## Conclusions

6.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

6.2 No exceedance was recorded for the environmental monitoring in the reporting month, except 4 noise Action Level (complaint) exceedances were recorded.

6.3 Four environmental complaints were received in the reporting month. All of them were related to construction noise due to night works at Lai Po Road near Hoi Lai Estate.

## Recommendations

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

*Water Impact*

- To review and implement temporary drainage system for the upcoming wet system.
- To review the capacity of de-silting facilities for discharge.
- To keep the sedimentation faculties well maintained and to perform de-silting regularly.

*Dust Impact*

- To ensure water spray is applied for the dust emissive works, such as soil nail installation, loading and unloading of soil materials, rock breaking works.
- To cover soil stockpiles and exposed slope surface by impervious sheets or other means.

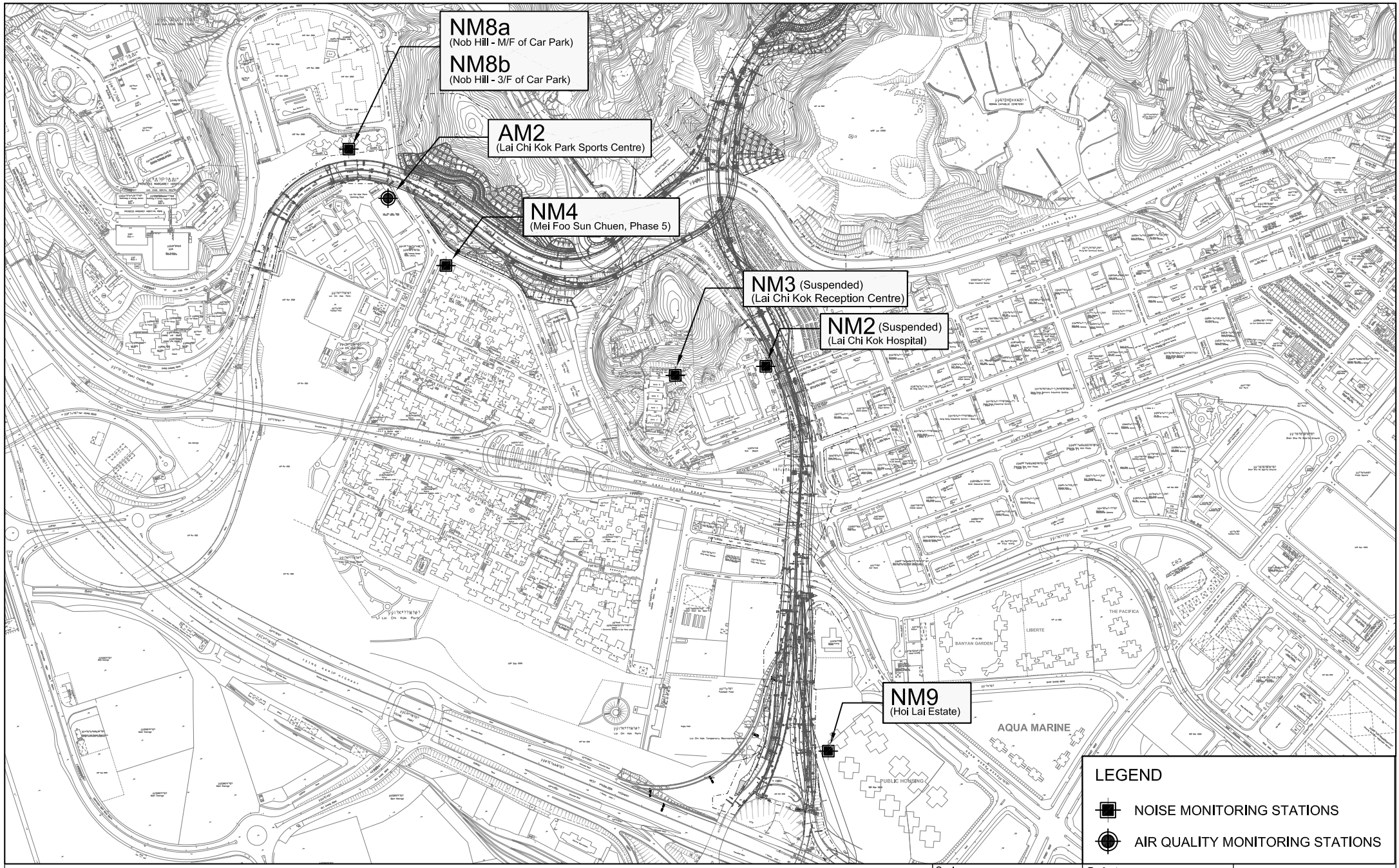
*Noise Impact*

- To provide temporary noise barriers for noisy activities, such as breaking works near the noise sensitive receivers.
- To employ quiet powered mechanical equipment if possible.
- To ensure compliance of CNP conditions during restricted-hour works.
- To reduce the number of noisy equipment in concurrent operation.

*Waste / Chemical Management*

- To ensure the quality of sorting of C&D materials at source (during generation);
- To carry out inspection of dump truck at site exit to ensure inert and non-inert C&D materials are properly segregated before removing off site.
- To ensure proper collection and disposal of rubbish generated on site.
- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste directly from the site.

# FIGURES




Title

ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN
CONTRACT HY/2003/01 - LAI CHI KOK VIADUCT

# LOCATIONS OF MONITORING STATIONS

| Scale | Project No. |
|---|---|
| 1 : 8000 (A4) | MA3024 |
| Date | Figure No. |
| 2005 | 1 |

CINOTECH consultants limited

F:\PROJECTS\MA3024\DRAWING\IMPACT\LCK\FIGURE 1_LAYOUT_05.DWG

# APPENDIX A
# ACTION AND LIMIT LEVELS

# Appendix A - Action and Limit Levels (LCKV)

### 1-Hour TSP

| Location | Action Level, µg/m$^3$ | Limit Level, µg/m$^3$ |
|---|---|---|
| AM2 | 301 | 500 |

### 24-Hour TSP

| Location | Action Level, µg/m$^3$ | Limit Level, µg/m$^3$ |
|---|---|---|
| AM2 | 177 | 260 |

### Construction Noise

| Period | Action Level | Limit Level |
|---|---|---|
| 0700-1900 hrs on normal weekdays | When one documented complaint is received | 75 dB(A) |
| 0700-2300 hrs on holidays & 1900-2300 hrs on all other days | | 70* dB(A) |
| 2300-0700 hrs of next day | | 55* dB(A) |

(*) The Area Sensitivity Rating for the noise monitoring stations (NM4, NM8a, NM8b and NM9) is taken as C, according to Table 1 of EPD's Technical Memorandum on Noise from Construction Work other than Percussive Piling.

**APPENDIX B**
**COPIES OF CALIBRATION CERTIFCATES**

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

CINOTECH

File No. MA3024/20/0015

Station: Lai Chi Kok Sport Centre (AM2) | Operator: WK
Date: 1-Feb-06 | Next Due Date: 31-Mar-06
Equipment No.: A-01-20 | Serial No. 0818

| Ambient Condition | | | |
|---|---|---|---|
| Temperature, Ta (K) | 295.3 | Pressure, Pa (mmHg) | 766.9 |

| Orifice Transfer Standard Information | | | | | |
|---|---|---|---|---|---|
| Equipment No.: | A-04-03 | Slope, mc | 0.0572 | Intercept, bc | 0.0261 |
| Last Calibration Date: | 23-Apr-05 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ | | | |
| Next Calibration Date: | 22-Apr-06 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$ | | | |

**Calibration of TSP Sampler**

| Calibration Point | Orfice | | | HVS | |
|---|---|---|---|---|---|
| | ΔH (orifice), in. of water | $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ | Qstd (CFM) **X - axis** | ΔW (HVS), in. of oil | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis** |
| 1 | 12.2 | 3.52 | 61.16 | 7.9 | 2.84 |
| 2 | 8.9 | 3.01 | 52.17 | 5.5 | 2.37 |
| 3 | 7.4 | 2.75 | 47.53 | 4.6 | 2.16 |
| 4 | 5.3 | 2.32 | 40.16 | 3.0 | 1.75 |
| 5 | 3.1 | 1.78 | 30.61 | 1.9 | 1.39 |

**By Linear Regression of Y on X**

**Slope , mw =** 0.0478 **Intercept, bw =** -0.1150

**Correlation coefficient* =** 0.9976

*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

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

Therefore, Set Point; $W = ( mw \times Qstd + bw )^2 \times ( 760 / Pa ) \times ( Ta / 298 ) =$ **3.70**

Remarks:

Conducted by: W.K. Tang Signature: Date: 1 Feb. 06

Checked by: Signature: Date: 1 Feb 06

F:\Equipment\Calibration\HVS\A-01-20\20060201

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# TEST REPORT

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

**ATTN:** **Mr. Henry Leung**

| | |
|---|---|
| Test Report No.: | C/05/50503 |
| Date of Issue: | 2005-05-03 |
| Date Received: | 2005-05-03 |
| Date Tested: | 2005-05-03 |
| Date Completed: | 2005-05-03 |
| Page: | 1 of 1 |

## Certificate of Calibration

**Item for calibration:**

| | |
|---|---|
| Description | : RS232 Integral Vane Digital Anemometer |
| Manufacturer | : AZ Instrument |
| Model No. | : 451104 |
| Serial No. | : 9020746 |
| Project No. | : C13 |
| Equipment No. | : A-03-01 |

**Test conditions:**

| | |
|---|---|
| Room Temperature | : 21 degree Celsius |
| Relative Humidity | : 70% |
| Pressure | : 100.8 kPa |

**Methodology:**

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

**Results:**

| | Reference Set Point | Instrument Readings |
|---|---|---|
| Measuring Air Velocity, m/s | 2.00 | 2.00 |
| Temperature, °C | 20.0 | 20.1 |

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

Patrick.

**PATRICK TSE**
*Operation Manager*

D.04.03

# Andersen Instruments, Inc.



## Orifice Transfer Standard Certification Worksheet

**Date:** 04/23/2005 **Rootsmeter S/N:** 9736553 **Ta:** 22.00 C
**Operator:** RA **Calibrator S/N:** 1888A **Pa:** 761.0 mm Hg
**Calibrator Model #:** G25A **Placed in service:**

| Run | Vol. Init. (m3) | Vol. Final (m3) | Δ Vol. (m3) | Δ Time (min) | ΔP (mm Hg) | ΔH (in H2O) |
|---|---|---|---|---|---|---|
| 1 | 1.00 | 2.00 | 1.00 | 1.404 | 3.08 | 2.00 |
| 2 | 3.00 | 4.00 | 1.00 | 0.997 | 6.17 | 4.00 |
| 3 | 5.00 | 6.00 | 1.00 | 0.889 | 7.85 | 5.00 |
| 4 | 7.00 | 8.00 | 1.00 | 0.848 | 8.59 | 5.50 |
| 5 | 9.00 | 10.00 | 1.00 | 0.700 | 12.42 | 8.00 |

## Data Tabulation

| Vstd (m3) | Qstd (x-axis) | $\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis) | Va | Qa (x-axis) | $\sqrt{\Delta H(Ta / Pa)}$ (y-axis) |
|---|---|---|---|---|---|
| 1.007 | 0.717 | 1.422 | 0.996 | 0.709 | 0.881 |
| 1.003 | 1.006 | 2.011 | 0.992 | 0.995 | 1.246 |
| 1.000 | 1.125 | 2.248 | 0.990 | 1.113 | 1.393 |
| 0.999 | 1.179 | 2.358 | 0.989 | 1.166 | 1.461 |
| 0.994 | 1.420 | 2.844 | 0.984 | 1.405 | 1.762 |
| | m = | 2.0208 | | m = | 1.2658 |
| | b = | -0.024947 | | b = | -0.015460 |
| | r = | 0.999989 | | r = | 0.999989 |

### Calculations

$$Vstd = \Delta Vol((Pa - \Delta P) / Pstd)(Tstd / Ta)$$
$$Qstd = Vstd / \Delta Time$$
$$Va = \Delta Vol((Pa - \Delta P) / Pa)$$
$$Qa = Va / \Delta Time$$

### For subsequent flow rate calculations:

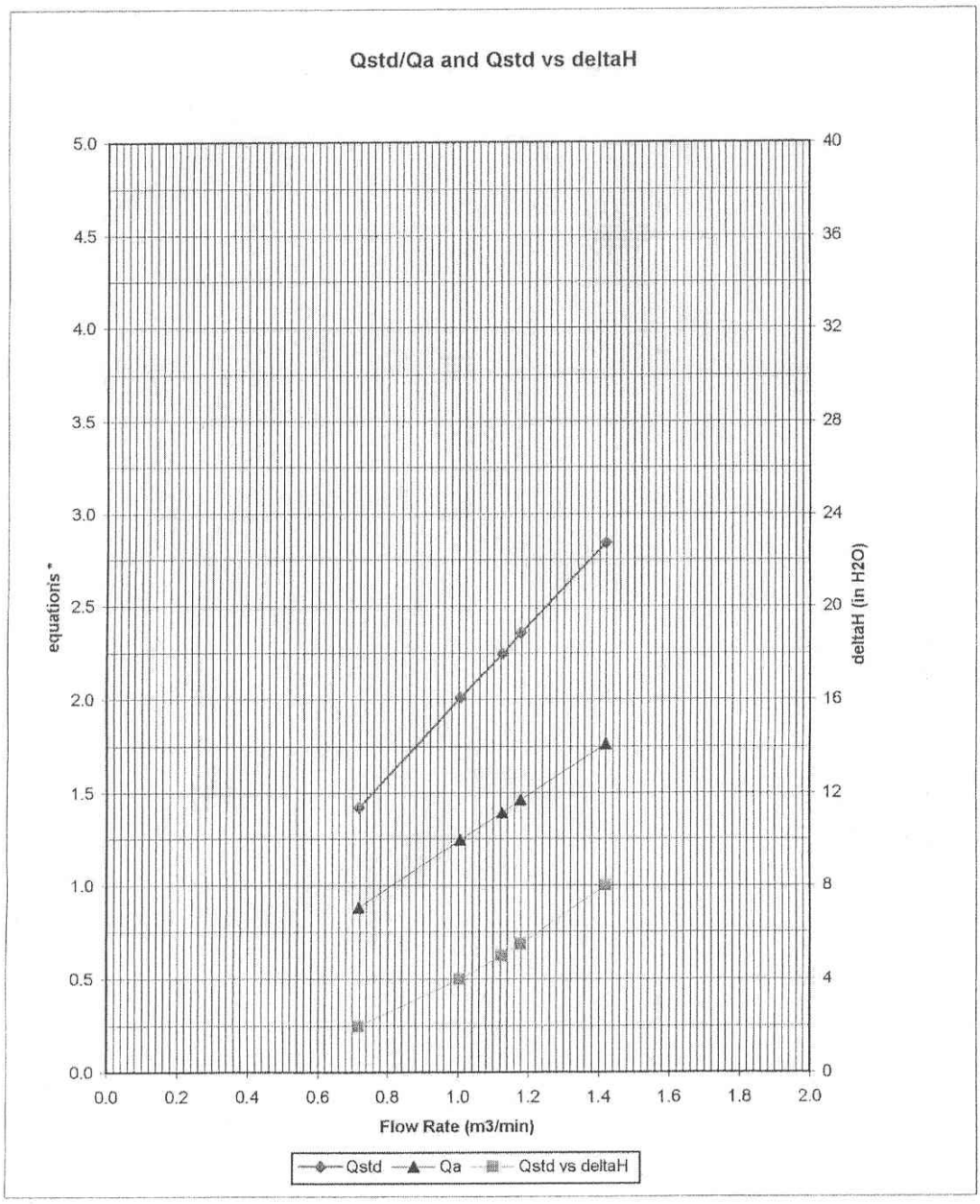
$$Qstd = 1 / m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right) - b\right)$$
$$Qa = 1 / m\left(\left(\sqrt{\Delta H(Ta / Pa)}\right) - b\right)$$

Standard Conditions:
Tstd: 298.18 ° K
Pstd: 760 mm Hg

where:
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (° K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

For additional information consult:
1. The Federal Register, Vol. 47, No.234, pp. 54896-54921, Dec. 6, 1982
2. Quality Assurance Handbook, Vol II (EPA 60074-77-277a), Section 2.11
3. Andersen Instruments, Inc. Instruction Manual

Notes:
1. Copies of this calibration are not kept on file.
2. EPA recommends calibrators should be recalibrated after one year of use.




* y-axis equations:

Qstd series: $\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H(Ta / Pa))}$

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# TEST REPORT

**APPLICANT:** **Cinotech Consultants Limited**
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**Shatin, N.T.**

**ATTN:** **Mr. Henry Leung**

| | |
|---|---|
| Test Report No.: | C/N/51216/1 |
| Date of Issue: | 2005-12-16 |
| Date Received: | 2005-12-15 |
| Date Tested: | 2005-12-15 |
| Date Completed: | 2005-12-16 |
| Next Due Date: | 2006-12-15 |
| Page: | 1 of 1 |

## Certificate of Calibration

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 20 degree Celsius |
| Relative Humidity | : 63% |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

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

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

Patrick

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# TEST REPORT

**APPLICANT:** **Cinotech Consultants Limited**
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**ATTN:** **Mr. Henry Leung**

| | |
|---|---|
| Test Report No.: | C/N/51116/1 |
| Date of Issue: | 2005-11-16 |
| Date Received: | 2005-11-15 |
| Date Tested: | 2005-11-15 |
| Date Completed: | 2005-11-16 |
| Next Due Date: | 2006-11-15 |
| Page: | 1 of 1 |

## Certificate of Calibration

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 20 degree Celsius |
| Relative Humidity | : 60% |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

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

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

Patrick.

**PATRICK TSE**
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# TEST REPORT

**APPLICANT:** **Cinotech Consultants Limited**
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**ATTN:** **Mr. Henry Leung**

| | |
|---|---|
| Test Report No.: | C/N/50905-1 |
| Date of Issue: | 2005-09-06 |
| Date Received: | 2005-09-05 |
| Date Tested: | 2005-09-06 |
| Date Completed: | 2005-09-06 |
| Next Due Date: | 2006-09-05 |
| Page: | 1 of 1 |

## Certificate of Calibration

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 22 degree Celsius |
| Relative Humidity | : 65% |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

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

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

Patrick.

**PATRICK TSE**
*Laborary Manager*

**WELLAB LTD.**

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# TEST REPORT

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**1602-1610 Delta House,**
**3 On Yiu Street,**
**Shatin, N.T.**

**ATTN:** **Mr. Henry Leung**

| | |
|---|---|
| Test Report No.: | C/N/50905-2 |
| Date of Issue: | 2005-09-06 |
| Date Received: | 2005-09-05 |
| Date Tested: | 2005-09-05 |
| Date Completed: | 2005-09-06 |
| Next Due Date: | 2006-09-05 |
| Page: | 1 of 1 |

## Certificate of Calibration

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 21 degree Celsius |
| Relative Humidity | : 62% |
| Pressure | : 1006.5hPa |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

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

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

Patrick.

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# TEST REPORT

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

**ATTN:** **Mr. Henry Leung**

| | |
|---|---|
| Test Report No.: | C/N/51015/1 |
| Date of Issue: | 2005-10-15 |
| Date Received: | 2005-10-13 |
| Date Tested: | 2005-10-14 |
| Date Completed: | 2005-10-15 |
| Next Due Date: | 2006-10-14 |
| Page: | 1 of 1 |

## Certificate of Calibration

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 22 degree Celsius |
| Relative Humidity | : 65% |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

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

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

Patrick.

**PATRICK TSE**
*Operation Manager*

**WELLAB LTD.**
Unit C, 1/F, Goldlion Holdings Center
13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
Tel: (852) 2898 7388
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# TEST REPORT

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

| | |
|---|---|
| Test Report No.: | C/05/1115-1 |
| Date of Issue: | 2005-11-15 |
| Date Received: | 2005-11-14 |
| Date Tested: | 2005-11-15 |
| Date Completed: | 2005-11-15 |
| Next Due Date: | 2006-11-14 |
| Page: | 1 of 1 |

**ATTN:** **Mr. Henry Leung**

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 20 degree Celsius |
| Relative Humidity | : 65% |
| Pressure | : 1015.2 hPa |

**Methodology:**

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

**Results:**

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

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

Patrick.

**PATRICK TSE**
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# TEST REPORT

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

| | |
|---|---|
| Test Report No.: | C/05/50305 |
| Date of Issue: | 2005-03-05 |
| Date Received: | 2005-03-04 |
| Date Tested: | 2005-03-05 |
| Date Completed: | 2005-03-05 |
| Next Due Date: | 2006-03-04 |

**ATTN:** **Mr. Henry Leung**

Page: 1 of 1

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 19 degree Celsius |
| Relative Humidity | : 70% |
| Pressure | : 1020.1hPa |

**Methodology:**

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

**Results:**

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

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

Patrick.

**PATRICK TSE**
*Operation Manager*

**WELLAB LTD.**

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Shatin, Hong Kong.
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# TEST REPORT

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

| | |
|---|---|
| Test Report No.: | C/N/50905-1A |
| Date of Issue: | 2005-09-06 |
| Date Received: | 2005-09-05 |
| Date Tested: | 2005-09-05 |
| Date Completed: | 2005-09-06 |
| Next Due Date: | 2006-09-05 |

**ATTN:** **Mr. Henry Leung**

Page: 1 of 1

**Item for calibration:**

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

**Test conditions:**

| | |
|---|---|
| Room Temperatre | : 21 degree Celsius |
| Relative Humidity | : 62% |
| Pressure | : 1006.5hPa |

**Methodology:**

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

**Results:**

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

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

Patrick.

**PATRICK TSE**
*Operation Manager*

# APPENDIX C
# ENVIRONMENTAL MONITORING AND AUDIT SCHEDULE

**Environmental Monitoring for Lai Chi Kok Viaduct**
**Air Quality and Noise Monitoring Schedule for February 2006**

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

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

| | |
|---|---|
| AM2 | Lai Chi Kok Sports Centre |
| NM4 | Mei Foo Sun Chuen, Phase 5 |
| NM8a | M/F of Nob Hill |
| NM8b | 3/F of Nob Hill |
| NM9 | G/F, Hoi Fai House, Hoi Lai Estate |

**Environmental Monitoring for Lai Chi Kok Viaduct**
**Tentative Air Quality and Noise Monitoring Schedule for March 2006**

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

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

| | |
|---|---|
| AM2 | Lai Chi Kok Sports Centre |
| NM4 | Mei Foo Sun Chuen, Phase 5 |
| NM8a | M/F of Nob Hill |
| NM8b | 3/F of Nob Hill |
| NM9 | G/F, Hoi Fai House, Hoi Lai Estate |

# APPENDIX D
# WIND DATA

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 1-Feb-2006 | 0:00 | 0 | --- |
| 1-Feb-2006 | 1:00 | 0 | --- |
| 1-Feb-2006 | 2:00 | 0 | NE |
| 1-Feb-2006 | 3:00 | 0 | --- |
| 1-Feb-2006 | 4:00 | 0 | SSW |
| 1-Feb-2006 | 5:00 | 0 | SSW |
| 1-Feb-2006 | 6:00 | 1.8 | W |
| 1-Feb-2006 | 7:00 | 2.7 | W |
| 1-Feb-2006 | 8:00 | 1.8 | W |
| 1-Feb-2006 | 9:00 | 1.8 | WSW |
| 1-Feb-2006 | 10:00 | 2.7 | W |
| 1-Feb-2006 | 11:00 | 3.1 | W |
| 1-Feb-2006 | 12:00 | 2.7 | WNW |
| 1-Feb-2006 | 13:00 | 2.2 | WNW |
| 1-Feb-2006 | 14:00 | 2.7 | W |
| 1-Feb-2006 | 15:00 | 2.2 | W |
| 1-Feb-2006 | 16:00 | 0.9 | NE |
| 1-Feb-2006 | 17:00 | 1.3 | NE |
| 1-Feb-2006 | 18:00 | 1.8 | ENE |
| 1-Feb-2006 | 19:00 | 0.4 | ENE |
| 1-Feb-2006 | 20:00 | 0 | NE |
| 1-Feb-2006 | 21:00 | 0.4 | WSW |
| 1-Feb-2006 | 22:00 | 3.6 | WSW |
| 1-Feb-2006 | 23:00 | 3.1 | W |
| 2-Feb-2006 | 0:00 | 4 | WSW |
| 2-Feb-2006 | 1:00 | 4 | WNW |
| 2-Feb-2006 | 2:00 | 4.9 | W |
| 2-Feb-2006 | 3:00 | 4 | W |
| 2-Feb-2006 | 4:00 | 5.4 | WSW |
| 2-Feb-2006 | 5:00 | 5.8 | SW |
| 2-Feb-2006 | 6:00 | 5.8 | SW |
| 2-Feb-2006 | 7:00 | 5.4 | WSW |
| 2-Feb-2006 | 8:00 | 5.8 | WSW |
| 2-Feb-2006 | 9:00 | 4.5 | W |
| 2-Feb-2006 | 10:00 | 4.9 | WNW |
| 2-Feb-2006 | 11:00 | 4.9 | WNW |
| 2-Feb-2006 | 12:00 | 5.8 | WNW |
| 2-Feb-2006 | 13:00 | 5.8 | WNW |
| 2-Feb-2006 | 14:00 | 5.8 | W |
| 2-Feb-2006 | 15:00 | 7.2 | WNW |
| 2-Feb-2006 | 16:00 | 6.3 | W |
| 2-Feb-2006 | 17:00 | 4.9 | W |
| 2-Feb-2006 | 18:00 | 4 | W |
| 2-Feb-2006 | 19:00 | 5.4 | WSW |
| 2-Feb-2006 | 20:00 | 3.6 | SW |
| 2-Feb-2006 | 21:00 | 2.7 | SW |
| 2-Feb-2006 | 22:00 | 0.9 | WSW |
| 2-Feb-2006 | 23:00 | 0.9 | SW |
| 3-Feb-2006 | 0:00 | 0.9 | S |
| 3-Feb-2006 | 1:00 | 0 | WSW |
| 3-Feb-2006 | 2:00 | 0 | W |
| 3-Feb-2006 | 3:00 | 1.3 | W |
| 3-Feb-2006 | 4:00 | 2.2 | WSW |
| 3-Feb-2006 | 5:00 | 1.8 | W |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 3-Feb-2006 | 6:00 | 1.8 | W |
| 3-Feb-2006 | 7:00 | 0 | W |
| 3-Feb-2006 | 8:00 | 0.4 | WNW |
| 3-Feb-2006 | 9:00 | 0 | NNE |
| 3-Feb-2006 | 10:00 | 3.1 | WNW |
| 3-Feb-2006 | 11:00 | 2.2 | W |
| 3-Feb-2006 | 12:00 | 2.2 | WNW |
| 3-Feb-2006 | 13:00 | 2.7 | WNW |
| 3-Feb-2006 | 14:00 | 3.6 | W |
| 3-Feb-2006 | 15:00 | 3.1 | WNW |
| 3-Feb-2006 | 16:00 | 3.1 | W |
| 3-Feb-2006 | 17:00 | 2.2 | WSW |
| 3-Feb-2006 | 18:00 | 2.2 | WSW |
| 3-Feb-2006 | 19:00 | 3.1 | WSW |
| 3-Feb-2006 | 20:00 | 4 | WNW |
| 3-Feb-2006 | 21:00 | 4 | WSW |
| 3-Feb-2006 | 22:00 | 3.6 | WSW |
| 3-Feb-2006 | 23:00 | 4 | WSW |
| 4-Feb-2006 | 0:00 | 4.5 | WSW |
| 4-Feb-2006 | 1:00 | 5.4 | W |
| 4-Feb-2006 | 2:00 | 4.9 | W |
| 4-Feb-2006 | 3:00 | 2.2 | WNW |
| 4-Feb-2006 | 4:00 | 2.2 | WNW |
| 4-Feb-2006 | 5:00 | 2.2 | W |
| 4-Feb-2006 | 6:00 | 2.2 | WSW |
| 4-Feb-2006 | 7:00 | 2.7 | WSW |
| 4-Feb-2006 | 8:00 | 1.8 | WSW |
| 4-Feb-2006 | 9:00 | 2.2 | WSW |
| 4-Feb-2006 | 10:00 | 2.2 | WSW |
| 4-Feb-2006 | 11:00 | 2.2 | W |
| 4-Feb-2006 | 12:00 | 2.2 | WSW |
| 4-Feb-2006 | 13:00 | 1.8 | W |
| 4-Feb-2006 | 14:00 | 1.8 | WSW |
| 4-Feb-2006 | 15:00 | 1.3 | WNW |
| 4-Feb-2006 | 16:00 | 1.3 | NW |
| 4-Feb-2006 | 17:00 | 1.8 | WNW |
| 4-Feb-2006 | 18:00 | 2.7 | WNW |
| 4-Feb-2006 | 19:00 | 2.2 | W |
| 4-Feb-2006 | 20:00 | 3.1 | W |
| 4-Feb-2006 | 21:00 | 3.1 | WNW |
| 4-Feb-2006 | 22:00 | 4 | WNW |
| 4-Feb-2006 | 23:00 | 4.5 | WNW |
| 5-Feb-2006 | 0:00 | 4 | WNW |
| 5-Feb-2006 | 1:00 | 4 | WNW |
| 5-Feb-2006 | 2:00 | 4.9 | W |
| 5-Feb-2006 | 3:00 | 5.4 | W |
| 5-Feb-2006 | 4:00 | 4.5 | W |
| 5-Feb-2006 | 5:00 | 3.6 | WSW |
| 5-Feb-2006 | 6:00 | 3.6 | SW |
| 5-Feb-2006 | 7:00 | 3.1 | SW |
| 5-Feb-2006 | 8:00 | 3.1 | WSW |
| 5-Feb-2006 | 9:00 | 3.1 | W |
| 5-Feb-2006 | 10:00 | 2.2 | SW |
| 5-Feb-2006 | 11:00 | 2.2 | SW |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 5-Feb-2006 | 12:00 | 2.2 | WNW |
| 5-Feb-2006 | 13:00 | 1.8 | WNW |
| 5-Feb-2006 | 14:00 | 1.3 | WNW |
| 5-Feb-2006 | 15:00 | 2.2 | WNW |
| 5-Feb-2006 | 16:00 | 3.1 | WNW |
| 5-Feb-2006 | 17:00 | 2.2 | WNW |
| 5-Feb-2006 | 18:00 | 1.3 | W |
| 5-Feb-2006 | 19:00 | 0 | SW |
| 5-Feb-2006 | 20:00 | 0 | W |
| 5-Feb-2006 | 21:00 | 0 | --- |
| 5-Feb-2006 | 22:00 | 0 | W |
| 5-Feb-2006 | 23:00 | 1.3 | W |
| 6-Feb-2006 | 0:00 | 1.3 | WNW |
| 6-Feb-2006 | 1:00 | 0.4 | W |
| 6-Feb-2006 | 2:00 | 1.3 | W |
| 6-Feb-2006 | 3:00 | 0.4 | S |
| 6-Feb-2006 | 4:00 | 0 | SSW |
| 6-Feb-2006 | 5:00 | 0 | --- |
| 6-Feb-2006 | 6:00 | 0 | --- |
| 6-Feb-2006 | 7:00 | 0 | --- |
| 6-Feb-2006 | 8:00 | 0 | --- |
| 6-Feb-2006 | 9:00 | 0 | NNW |
| 6-Feb-2006 | 10:00 | 0.4 | WNW |
| 6-Feb-2006 | 11:00 | 0.9 | WNW |
| 6-Feb-2006 | 12:00 | 0.9 | WNW |
| 6-Feb-2006 | 13:00 | 1.8 | N |
| 6-Feb-2006 | 14:00 | 2.7 | NNE |
| 6-Feb-2006 | 15:00 | 2.7 | NNE |
| 6-Feb-2006 | 16:00 | 2.2 | NNE |
| 6-Feb-2006 | 17:00 | 2.7 | NE |
| 6-Feb-2006 | 18:00 | 1.3 | NE |
| 6-Feb-2006 | 19:00 | 0.9 | NE |
| 6-Feb-2006 | 20:00 | 0 | N |
| 6-Feb-2006 | 21:00 | 0 | --- |
| 6-Feb-2006 | 22:00 | 0 | --- |
| 6-Feb-2006 | 23:00 | 0 | --- |
| 7-Feb-2006 | 0:00 | 0 | --- |
| 7-Feb-2006 | 1:00 | 0 | --- |
| 7-Feb-2006 | 2:00 | 0 | --- |
| 7-Feb-2006 | 3:00 | 0 | --- |
| 7-Feb-2006 | 4:00 | 0 | --- |
| 7-Feb-2006 | 5:00 | 0 | --- |
| 7-Feb-2006 | 6:00 | 0 | --- |
| 7-Feb-2006 | 7:00 | 0 | N |
| 7-Feb-2006 | 8:00 | 0 | NW |
| 7-Feb-2006 | 9:00 | 1.3 | WNW |
| 7-Feb-2006 | 10:00 | 2.2 | W |
| 7-Feb-2006 | 11:00 | 3.1 | WNW |
| 7-Feb-2006 | 12:00 | 2.2 | WNW |
| 7-Feb-2006 | 13:00 | 1.8 | WNW |
| 7-Feb-2006 | 14:00 | 1.3 | WNW |
| 7-Feb-2006 | 15:00 | 3.1 | W |
| 7-Feb-2006 | 16:00 | 1.8 | WNW |
| 7-Feb-2006 | 17:00 | 1.3 | W |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 7-Feb-2006 | 18:00 | 0.9 | SSW |
| 7-Feb-2006 | 19:00 | 2.2 | W |
| 7-Feb-2006 | 20:00 | 2.7 | W |
| 7-Feb-2006 | 21:00 | 3.1 | W |
| 7-Feb-2006 | 22:00 | 4 | W |
| 7-Feb-2006 | 23:00 | 4.9 | W |
| 8-Feb-2006 | 0:00 | 3.6 | WNW |
| 8-Feb-2006 | 1:00 | 3.1 | SSW |
| 8-Feb-2006 | 2:00 | 3.1 | SSW |
| 8-Feb-2006 | 3:00 | 3.6 | W |
| 8-Feb-2006 | 4:00 | 4 | WNW |
| 8-Feb-2006 | 5:00 | 2.2 | WSW |
| 8-Feb-2006 | 6:00 | 2.2 | WSW |
| 8-Feb-2006 | 7:00 | 1.3 | W |
| 8-Feb-2006 | 8:00 | 0.9 | S |
| 8-Feb-2006 | 9:00 | 0.9 | WNW |
| 8-Feb-2006 | 10:00 | 2.7 | WNW |
| 8-Feb-2006 | 11:00 | 4 | W |
| 8-Feb-2006 | 12:00 | 2.7 | W |
| 8-Feb-2006 | 13:00 | 2.7 | W |
| 8-Feb-2006 | 14:00 | 2.7 | WNW |
| 8-Feb-2006 | 15:00 | 2.2 | WNW |
| 8-Feb-2006 | 16:00 | 3.1 | W |
| 8-Feb-2006 | 17:00 | 4.5 | WNW |
| 8-Feb-2006 | 18:00 | 4.5 | WNW |
| 8-Feb-2006 | 19:00 | 2.7 | WNW |
| 8-Feb-2006 | 20:00 | 4.9 | WSW |
| 8-Feb-2006 | 21:00 | 5.8 | WNW |
| 8-Feb-2006 | 22:00 | 8 | WNW |
| 8-Feb-2006 | 23:00 | 4.9 | WNW |
| 9-Feb-2006 | 0:00 | 5.8 | WNW |
| 9-Feb-2006 | 1:00 | 5.4 | WSW |
| 9-Feb-2006 | 2:00 | 5.8 | WNW |
| 9-Feb-2006 | 3:00 | 3.1 | WNW |
| 9-Feb-2006 | 4:00 | 4.9 | WNW |
| 9-Feb-2006 | 5:00 | 2.7 | WNW |
| 9-Feb-2006 | 6:00 | 3.1 | W |
| 9-Feb-2006 | 7:00 | 2.7 | W |
| 9-Feb-2006 | 8:00 | 2.2 | W |
| 9-Feb-2006 | 9:00 | 2.7 | W |
| 9-Feb-2006 | 10:00 | 2.7 | WNW |
| 9-Feb-2006 | 11:00 | 2.7 | WNW |
| 9-Feb-2006 | 12:00 | 4.5 | WNW |
| 9-Feb-2006 | 13:00 | 4.5 | NW |
| 9-Feb-2006 | 14:00 | 3.6 | WNW |
| 9-Feb-2006 | 15:00 | 3.6 | WNW |
| 9-Feb-2006 | 16:00 | 3.6 | WNW |
| 9-Feb-2006 | 17:00 | 4 | WNW |
| 9-Feb-2006 | 18:00 | 4 | W |
| 9-Feb-2006 | 19:00 | 3.6 | W |
| 9-Feb-2006 | 20:00 | 3.1 | W |
| 9-Feb-2006 | 21:00 | 1.8 | WSW |
| 9-Feb-2006 | 22:00 | 1.3 | W |
| 9-Feb-2006 | 23:00 | 0.4 | SSW |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 10-Feb-2006 | 0:00 | 0 | SSW |
| 10-Feb-2006 | 1:00 | 0 | --- |
| 10-Feb-2006 | 2:00 | 0 | --- |
| 10-Feb-2006 | 3:00 | 0 | S |
| 10-Feb-2006 | 4:00 | 0 | --- |
| 10-Feb-2006 | 5:00 | 0 | --- |
| 10-Feb-2006 | 6:00 | 0 | --- |
| 10-Feb-2006 | 7:00 | 0 | --- |
| 10-Feb-2006 | 8:00 | 0 | NNW |
| 10-Feb-2006 | 9:00 | 1.3 | WNW |
| 10-Feb-2006 | 10:00 | 2.7 | WNW |
| 10-Feb-2006 | 11:00 | 1.3 | W |
| 10-Feb-2006 | 12:00 | 1.8 | WNW |
| 10-Feb-2006 | 13:00 | 1.8 | WNW |
| 10-Feb-2006 | 14:00 | 1.8 | NE |
| 10-Feb-2006 | 15:00 | 3.1 | NE |
| 10-Feb-2006 | 16:00 | 2.7 | NE |
| 10-Feb-2006 | 17:00 | 2.2 | NE |
| 10-Feb-2006 | 18:00 | 1.3 | NE |
| 10-Feb-2006 | 19:00 | 0 | NE |
| 10-Feb-2006 | 20:00 | 0 | --- |
| 10-Feb-2006 | 21:00 | 0 | --- |
| 10-Feb-2006 | 22:00 | 0 | --- |
| 10-Feb-2006 | 23:00 | 0 | --- |
| 11-Feb-2006 | 0:00 | 0 | --- |
| 11-Feb-2006 | 1:00 | 0 | --- |
| 11-Feb-2006 | 2:00 | 0 | ESE |
| 11-Feb-2006 | 3:00 | 0 | --- |
| 11-Feb-2006 | 4:00 | 0 | --- |
| 11-Feb-2006 | 5:00 | 0 | --- |
| 11-Feb-2006 | 6:00 | 0 | --- |
| 11-Feb-2006 | 7:00 | 0 | --- |
| 11-Feb-2006 | 8:00 | 0 | --- |
| 11-Feb-2006 | 9:00 | 0 | --- |
| 11-Feb-2006 | 10:00 | 0 | WNW |
| 11-Feb-2006 | 11:00 | 0 | WNW |
| 11-Feb-2006 | 12:00 | 0.9 | WNW |
| 11-Feb-2006 | 13:00 | 1.8 | WNW |
| 11-Feb-2006 | 14:00 | 2.2 | N |
| 11-Feb-2006 | 15:00 | 3.1 | NNE |
| 11-Feb-2006 | 16:00 | 1.8 | NE |
| 11-Feb-2006 | 17:00 | 2.2 | NE |
| 11-Feb-2006 | 18:00 | 1.3 | NE |
| 11-Feb-2006 | 19:00 | 0 | NE |
| 11-Feb-2006 | 20:00 | 0.9 | E |
| 11-Feb-2006 | 21:00 | 0.4 | ENE |
| 11-Feb-2006 | 22:00 | 0 | E |
| 11-Feb-2006 | 23:00 | 0 | --- |
| 12-Feb-2006 | 0:00 | 0 | --- |
| 12-Feb-2006 | 1:00 | 0 | E |
| 12-Feb-2006 | 2:00 | 0 | --- |
| 12-Feb-2006 | 3:00 | 0 | --- |
| 12-Feb-2006 | 4:00 | 0 | --- |
| 12-Feb-2006 | 5:00 | 0 | --- |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 12-Feb-2006 | 6:00 | 0 | --- |
| 12-Feb-2006 | 7:00 | 0 | --- |
| 12-Feb-2006 | 8:00 | 0 | --- |
| 12-Feb-2006 | 9:00 | 1.8 | SSW |
| 12-Feb-2006 | 10:00 | 4 | WNW |
| 12-Feb-2006 | 11:00 | 4.9 | W |
| 12-Feb-2006 | 12:00 | 4.9 | WNW |
| 12-Feb-2006 | 13:00 | 6.3 | WNW |
| 12-Feb-2006 | 14:00 | 5.4 | WNW |
| 12-Feb-2006 | 15:00 | 5.8 | WNW |
| 12-Feb-2006 | 16:00 | 6.3 | W |
| 12-Feb-2006 | 17:00 | 5.8 | WNW |
| 12-Feb-2006 | 18:00 | 4.5 | WNW |
| 12-Feb-2006 | 19:00 | 3.6 | WSW |
| 12-Feb-2006 | 20:00 | 2.7 | SSW |
| 12-Feb-2006 | 21:00 | 2.7 | WNW |
| 12-Feb-2006 | 22:00 | 3.6 | WNW |
| 12-Feb-2006 | 23:00 | 7.6 | WNW |
| 13-Feb-2006 | 0:00 | 5.8 | WNW |
| 13-Feb-2006 | 1:00 | 6.3 | WNW |
| 13-Feb-2006 | 2:00 | 6.3 | WNW |
| 13-Feb-2006 | 3:00 | 5.8 | W |
| 13-Feb-2006 | 4:00 | 4 | WNW |
| 13-Feb-2006 | 5:00 | 4.5 | WNW |
| 13-Feb-2006 | 6:00 | 4.5 | WSW |
| 13-Feb-2006 | 7:00 | 3.6 | WNW |
| 13-Feb-2006 | 8:00 | 3.1 | WNW |
| 13-Feb-2006 | 9:00 | 2.7 | WNW |
| 13-Feb-2006 | 10:00 | 3.6 | WNW |
| 13-Feb-2006 | 11:00 | 3.6 | WNW |
| 13-Feb-2006 | 12:00 | 4 | WNW |
| 13-Feb-2006 | 13:00 | 3.1 | WNW |
| 13-Feb-2006 | 14:00 | 1.8 | WNW |
| 13-Feb-2006 | 15:00 | 1.3 | WNW |
| 13-Feb-2006 | 16:00 | 0.4 | WNW |
| 13-Feb-2006 | 17:00 | 0.4 | W |
| 13-Feb-2006 | 18:00 | 0.4 | WNW |
| 13-Feb-2006 | 19:00 | 0 | WNW |
| 13-Feb-2006 | 20:00 | 0 | --- |
| 13-Feb-2006 | 21:00 | 0 | WNW |
| 13-Feb-2006 | 22:00 | 0.4 | WNW |
| 13-Feb-2006 | 23:00 | 0 | WNW |
| 14-Feb-2006 | 0:00 | 1.3 | S |
| 14-Feb-2006 | 1:00 | 1.3 | SW |
| 14-Feb-2006 | 2:00 | 0.4 | WSW |
| 14-Feb-2006 | 3:00 | 0.4 | W |
| 14-Feb-2006 | 4:00 | 0 | W |
| 14-Feb-2006 | 5:00 | 0 | SW |
| 14-Feb-2006 | 6:00 | 0 | --- |
| 14-Feb-2006 | 7:00 | 0 | S |
| 14-Feb-2006 | 8:00 | 0 | W |
| 14-Feb-2006 | 9:00 | 0 | SSE |
| 14-Feb-2006 | 10:00 | 0 | SW |
| 14-Feb-2006 | 11:00 | 0.4 | W |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 14-Feb-2006 | 12:00 | 1.3 | W |
| 14-Feb-2006 | 13:00 | 1.3 | WSW |
| 14-Feb-2006 | 14:00 | 0.9 | WSW |
| 14-Feb-2006 | 15:00 | 1.8 | SSW |
| 14-Feb-2006 | 16:00 | 3.1 | W |
| 14-Feb-2006 | 17:00 | 2.2 | W |
| 14-Feb-2006 | 18:00 | 2.7 | W |
| 14-Feb-2006 | 19:00 | 1.8 | SW |
| 14-Feb-2006 | 20:00 | 1.8 | SSW |
| 14-Feb-2006 | 21:00 | 1.8 | SSW |
| 14-Feb-2006 | 22:00 | 2.7 | WSW |
| 14-Feb-2006 | 23:00 | 0.9 | W |
| 15-Feb-2006 | 0:00 | 0.9 | SSW |
| 15-Feb-2006 | 1:00 | 0.4 | WSW |
| 15-Feb-2006 | 2:00 | 0.9 | WNW |
| 15-Feb-2006 | 3:00 | 0 | W |
| 15-Feb-2006 | 4:00 | 0 | --- |
| 15-Feb-2006 | 5:00 | 0.4 | WSW |
| 15-Feb-2006 | 6:00 | 0 | WSW |
| 15-Feb-2006 | 7:00 | 0 | --- |
| 15-Feb-2006 | 8:00 | 0 | --- |
| 15-Feb-2006 | 9:00 | 0 | SE |
| 15-Feb-2006 | 10:00 | 0 | NNW |
| 15-Feb-2006 | 11:00 | 0.4 | W |
| 15-Feb-2006 | 12:00 | 0.4 | N |
| 15-Feb-2006 | 13:00 | 1.8 | NE |
| 15-Feb-2006 | 14:00 | 3.1 | NE |
| 15-Feb-2006 | 15:00 | 2.2 | NNE |
| 15-Feb-2006 | 16:00 | 2.7 | NE |
| 15-Feb-2006 | 17:00 | 2.2 | NNE |
| 15-Feb-2006 | 18:00 | 2.2 | E |
| 15-Feb-2006 | 19:00 | 1.3 | E |
| 15-Feb-2006 | 20:00 | 0.4 | E |
| 15-Feb-2006 | 21:00 | 0 | ENE |
| 15-Feb-2006 | 22:00 | 0 | --- |
| 15-Feb-2006 | 23:00 | 0 | --- |
| 16-Feb-2006 | 0:00 | 0 | ENE |
| 16-Feb-2006 | 1:00 | 0 | --- |
| 16-Feb-2006 | 2:00 | 0 | --- |
| 16-Feb-2006 | 3:00 | 0 | ENE |
| 16-Feb-2006 | 4:00 | 0 | --- |
| 16-Feb-2006 | 5:00 | 0 | --- |
| 16-Feb-2006 | 6:00 | 0 | --- |
| 16-Feb-2006 | 7:00 | 0 | --- |
| 16-Feb-2006 | 8:00 | 0 | --- |
| 16-Feb-2006 | 9:00 | 0 | --- |
| 16-Feb-2006 | 10:00 | 0 | NE |
| 16-Feb-2006 | 11:00 | 0.9 | NE |
| 16-Feb-2006 | 12:00 | 1.3 | NE |
| 16-Feb-2006 | 13:00 | 0.9 | NE |
| 16-Feb-2006 | 14:00 | 0.4 | ENE |
| 16-Feb-2006 | 15:00 | 2.2 | NE |
| 16-Feb-2006 | 16:00 | 3.1 | NE |
| 16-Feb-2006 | 17:00 | 2.2 | NE |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 16-Feb-2006 | 18:00 | 0.4 | ENE |
| 16-Feb-2006 | 19:00 | 0 | ENE |
| 16-Feb-2006 | 20:00 | 0 | --- |
| 16-Feb-2006 | 21:00 | 0 | --- |
| 16-Feb-2006 | 22:00 | 0 | ENE |
| 16-Feb-2006 | 23:00 | 0.4 | WNW |
| 17-Feb-2006 | 0:00 | 2.7 | W |
| 17-Feb-2006 | 1:00 | 2.7 | W |
| 17-Feb-2006 | 2:00 | 2.7 | WNW |
| 17-Feb-2006 | 3:00 | 2.7 | WSW |
| 17-Feb-2006 | 4:00 | 3.1 | WSW |
| 17-Feb-2006 | 5:00 | 3.1 | WSW |
| 17-Feb-2006 | 6:00 | 3.1 | WSW |
| 17-Feb-2006 | 7:00 | 3.1 | WSW |
| 17-Feb-2006 | 8:00 | 1.8 | WSW |
| 17-Feb-2006 | 9:00 | 2.7 | WSW |
| 17-Feb-2006 | 10:00 | 2.7 | WSW |
| 17-Feb-2006 | 11:00 | 3.1 | WSW |
| 17-Feb-2006 | 12:00 | 2.7 | SW |
| 17-Feb-2006 | 13:00 | 2.2 | WSW |
| 17-Feb-2006 | 14:00 | 2.7 | WSW |
| 17-Feb-2006 | 15:00 | 2.2 | WSW |
| 17-Feb-2006 | 16:00 | 2.2 | WNW |
| 17-Feb-2006 | 17:00 | 2.2 | WNW |
| 17-Feb-2006 | 18:00 | 3.6 | WNW |
| 17-Feb-2006 | 19:00 | 3.1 | WNW |
| 17-Feb-2006 | 20:00 | 3.6 | WNW |
| 17-Feb-2006 | 21:00 | 4.5 | WNW |
| 17-Feb-2006 | 22:00 | 3.6 | WNW |
| 17-Feb-2006 | 23:00 | 3.6 | W |
| 18-Feb-2006 | 0:00 | 3.6 | W |
| 18-Feb-2006 | 1:00 | 4.5 | W |
| 18-Feb-2006 | 2:00 | 4 | WSW |
| 18-Feb-2006 | 3:00 | 3.1 | WNW |
| 18-Feb-2006 | 4:00 | 2.2 | WSW |
| 18-Feb-2006 | 5:00 | 1.3 | WSW |
| 18-Feb-2006 | 6:00 | 2.2 | WNW |
| 18-Feb-2006 | 7:00 | 3.6 | WNW |
| 18-Feb-2006 | 8:00 | 1.8 | SW |
| 18-Feb-2006 | 9:00 | 2.7 | WNW |
| 18-Feb-2006 | 10:00 | 3.1 | WNW |
| 18-Feb-2006 | 11:00 | 4 | WNW |
| 18-Feb-2006 | 12:00 | 4 | WNW |
| 18-Feb-2006 | 13:00 | 4 | WNW |
| 18-Feb-2006 | 14:00 | 3.1 | WNW |
| 18-Feb-2006 | 15:00 | 4.5 | WNW |
| 18-Feb-2006 | 16:00 | 5.4 | WNW |
| 18-Feb-2006 | 17:00 | 5.4 | WNW |
| 18-Feb-2006 | 18:00 | 4 | W |
| 18-Feb-2006 | 19:00 | 3.1 | WNW |
| 18-Feb-2006 | 20:00 | 3.1 | W |
| 18-Feb-2006 | 21:00 | 3.6 | W |
| 18-Feb-2006 | 22:00 | 2.2 | WNW |
| 18-Feb-2006 | 23:00 | 2.7 | W |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 19-Feb-2006 | 0:00 | 3.1 | WNW |
| 19-Feb-2006 | 1:00 | 2.2 | WSW |
| 19-Feb-2006 | 2:00 | 2.2 | WNW |
| 19-Feb-2006 | 3:00 | 2.2 | W |
| 19-Feb-2006 | 4:00 | 0.4 | WNW |
| 19-Feb-2006 | 5:00 | 0.9 | WNW |
| 19-Feb-2006 | 6:00 | 0.9 | SSW |
| 19-Feb-2006 | 7:00 | 1.3 | W |
| 19-Feb-2006 | 8:00 | 1.3 | W |
| 19-Feb-2006 | 9:00 | 1.3 | W |
| 19-Feb-2006 | 10:00 | 2.2 | WNW |
| 19-Feb-2006 | 11:00 | 2.2 | WNW |
| 19-Feb-2006 | 12:00 | 2.7 | WNW |
| 19-Feb-2006 | 13:00 | 2.7 | W |
| 19-Feb-2006 | 14:00 | 2.7 | W |
| 19-Feb-2006 | 15:00 | 3.1 | WNW |
| 19-Feb-2006 | 16:00 | 1.8 | WNW |
| 19-Feb-2006 | 17:00 | 2.2 | W |
| 19-Feb-2006 | 18:00 | 0.9 | W |
| 19-Feb-2006 | 19:00 | 1.3 | W |
| 19-Feb-2006 | 20:00 | 2.7 | W |
| 19-Feb-2006 | 21:00 | 1.3 | WNW |
| 19-Feb-2006 | 22:00 | 2.7 | WNW |
| 19-Feb-2006 | 23:00 | 1.8 | WNW |
| 20-Feb-2006 | 0:00 | 2.2 | W |
| 20-Feb-2006 | 1:00 | 0.4 | W |
| 20-Feb-2006 | 2:00 | 0.9 | WNW |
| 20-Feb-2006 | 3:00 | 0 | W |
| 20-Feb-2006 | 4:00 | 0.9 | W |
| 20-Feb-2006 | 5:00 | 1.8 | WNW |
| 20-Feb-2006 | 6:00 | 0.9 | WNW |
| 20-Feb-2006 | 7:00 | 0.4 | W |
| 20-Feb-2006 | 8:00 | 2.2 | W |
| 20-Feb-2006 | 9:00 | 1.3 | W |
| 20-Feb-2006 | 10:00 | 0.9 | W |
| 20-Feb-2006 | 11:00 | 0.4 | NW |
| 20-Feb-2006 | 12:00 | 2.7 | NE |
| 20-Feb-2006 | 13:00 | 2.2 | N |
| 20-Feb-2006 | 14:00 | 3.1 | NE |
| 20-Feb-2006 | 15:00 | 1.3 | ENE |
| 20-Feb-2006 | 16:00 | 1.8 | NNE |
| 20-Feb-2006 | 17:00 | 0.4 | NNE |
| 20-Feb-2006 | 18:00 | 0.4 | WNW |
| 20-Feb-2006 | 19:00 | 0.4 | NNE |
| 20-Feb-2006 | 20:00 | 0 | SSW |
| 20-Feb-2006 | 21:00 | 0.4 | SSW |
| 20-Feb-2006 | 22:00 | 0.4 | SSW |
| 20-Feb-2006 | 23:00 | 0.4 | W |
| 21-Feb-2006 | 0:00 | 0.9 | SW |
| 21-Feb-2006 | 1:00 | 0.4 | W |
| 21-Feb-2006 | 2:00 | 0.4 | SSW |
| 21-Feb-2006 | 3:00 | 0 | SW |
| 21-Feb-2006 | 4:00 | 0.4 | WNW |
| 21-Feb-2006 | 5:00 | 1.8 | W |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 21-Feb-2006 | 6:00 | 2.2 | W |
| 21-Feb-2006 | 7:00 | 0.4 | W |
| 21-Feb-2006 | 8:00 | 0.9 | W |
| 21-Feb-2006 | 9:00 | 2.2 | WNW |
| 21-Feb-2006 | 10:00 | 1.8 | W |
| 21-Feb-2006 | 11:00 | 1.3 | WNW |
| 21-Feb-2006 | 12:00 | 1.8 | WNW |
| 21-Feb-2006 | 13:00 | 2.7 | N |
| 21-Feb-2006 | 14:00 | 3.1 | N |
| 21-Feb-2006 | 15:00 | 3.1 | N |
| 21-Feb-2006 | 16:00 | 1.8 | W |
| 21-Feb-2006 | 17:00 | 2.2 | W |
| 21-Feb-2006 | 18:00 | 2.2 | W |
| 21-Feb-2006 | 19:00 | 2.7 | W |
| 21-Feb-2006 | 20:00 | 2.7 | W |
| 21-Feb-2006 | 21:00 | 2.7 | W |
| 21-Feb-2006 | 22:00 | 1.8 | W |
| 21-Feb-2006 | 23:00 | 2.2 | W |
| 22-Feb-2006 | 0:00 | 1.8 | SSW |
| 22-Feb-2006 | 1:00 | 0.9 | W |
| 22-Feb-2006 | 2:00 | 0.9 | W |
| 22-Feb-2006 | 3:00 | 0.9 | W |
| 22-Feb-2006 | 4:00 | 1.3 | SSW |
| 22-Feb-2006 | 5:00 | 0.4 | W |
| 22-Feb-2006 | 6:00 | 0.9 | W |
| 22-Feb-2006 | 7:00 | 0.9 | W |
| 22-Feb-2006 | 8:00 | 0 | --- |
| 22-Feb-2006 | 9:00 | 0 | WSW |
| 22-Feb-2006 | 10:00 | 0.9 | WNW |
| 22-Feb-2006 | 11:00 | 0.4 | WNW |
| 22-Feb-2006 | 12:00 | 1.8 | W |
| 22-Feb-2006 | 13:00 | 2.2 | WNW |
| 22-Feb-2006 | 14:00 | 2.2 | W |
| 22-Feb-2006 | 15:00 | 1.8 | W |
| 22-Feb-2006 | 16:00 | 2.7 | NE |
| 22-Feb-2006 | 17:00 | 1.3 | NE |
| 22-Feb-2006 | 18:00 | 1.3 | E |
| 22-Feb-2006 | 19:00 | 0.9 | E |
| 22-Feb-2006 | 20:00 | 0 | NE |
| 22-Feb-2006 | 21:00 | 0 | --- |
| 22-Feb-2006 | 22:00 | 0 | --- |
| 22-Feb-2006 | 23:00 | 1.3 | WSW |
| 23-Feb-2006 | 0:00 | 2.7 | WSW |
| 23-Feb-2006 | 1:00 | 1.8 | WSW |
| 23-Feb-2006 | 2:00 | 2.2 | W |
| 23-Feb-2006 | 3:00 | 2.7 | WSW |
| 23-Feb-2006 | 4:00 | 1.3 | WNW |
| 23-Feb-2006 | 5:00 | 1.3 | SW |
| 23-Feb-2006 | 6:00 | 2.2 | SW |
| 23-Feb-2006 | 7:00 | 1.8 | SW |
| 23-Feb-2006 | 8:00 | 1.8 | SW |
| 23-Feb-2006 | 9:00 | 1.8 | W |
| 23-Feb-2006 | 10:00 | 1.3 | WSW |
| 23-Feb-2006 | 11:00 | 1.8 | W |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 23-Feb-2006 | 12:00 | 1.3 | WSW |
| 23-Feb-2006 | 13:00 | 1.3 | W |
| 23-Feb-2006 | 14:00 | 1.8 | W |
| 23-Feb-2006 | 15:00 | 1.8 | W |
| 23-Feb-2006 | 16:00 | 1.8 | W |
| 23-Feb-2006 | 17:00 | 2.2 | W |
| 23-Feb-2006 | 18:00 | 1.8 | WNW |
| 23-Feb-2006 | 19:00 | 1.8 | W |
| 23-Feb-2006 | 20:00 | 0.9 | W |
| 23-Feb-2006 | 21:00 | 1.3 | SSW |
| 23-Feb-2006 | 22:00 | 0.9 | SSW |
| 23-Feb-2006 | 23:00 | 0.4 | WNW |
| 24-Feb-2006 | 0:00 | 0.9 | W |
| 24-Feb-2006 | 1:00 | 0.9 | SSW |
| 24-Feb-2006 | 2:00 | 0.4 | SSW |
| 24-Feb-2006 | 3:00 | 3.1 | WNW |
| 24-Feb-2006 | 4:00 | 3.1 | WNW |
| 24-Feb-2006 | 5:00 | 1.8 | SW |
| 24-Feb-2006 | 6:00 | 2.2 | WSW |
| 24-Feb-2006 | 7:00 | 2.2 | SW |
| 24-Feb-2006 | 8:00 | 2.2 | SW |
| 24-Feb-2006 | 9:00 | 2.2 | WSW |
| 24-Feb-2006 | 10:00 | 0.9 | W |
| 24-Feb-2006 | 11:00 | 0.9 | WNW |
| 24-Feb-2006 | 12:00 | 2.7 | WNW |
| 24-Feb-2006 | 13:00 | 3.6 | WNW |
| 24-Feb-2006 | 14:00 | 2.2 | NW |
| 24-Feb-2006 | 15:00 | 2.2 | WNW |
| 24-Feb-2006 | 16:00 | 1.3 | WNW |
| 24-Feb-2006 | 17:00 | 2.7 | W |
| 24-Feb-2006 | 18:00 | 3.1 | W |
| 24-Feb-2006 | 19:00 | 3.1 | W |
| 24-Feb-2006 | 20:00 | 2.7 | W |
| 24-Feb-2006 | 21:00 | 2.2 | W |
| 24-Feb-2006 | 22:00 | 1.8 | W |
| 24-Feb-2006 | 23:00 | 3.6 | WNW |
| 25-Feb-2006 | 0:00 | 1.8 | SW |
| 25-Feb-2006 | 1:00 | 2.2 | SW |
| 25-Feb-2006 | 2:00 | 2.2 | W |
| 25-Feb-2006 | 3:00 | 1.8 | W |
| 25-Feb-2006 | 4:00 | 2.2 | WNW |
| 25-Feb-2006 | 5:00 | 4.9 | WSW |
| 25-Feb-2006 | 6:00 | 3.1 | W |
| 25-Feb-2006 | 7:00 | 2.7 | WSW |
| 25-Feb-2006 | 8:00 | 2.2 | W |
| 25-Feb-2006 | 9:00 | 1.8 | W |
| 25-Feb-2006 | 10:00 | 1.3 | W |
| 25-Feb-2006 | 11:00 | 1.3 | W |
| 25-Feb-2006 | 12:00 | 0.9 | W |
| 25-Feb-2006 | 13:00 | 1.8 | WNW |
| 25-Feb-2006 | 14:00 | 1.3 | W |
| 25-Feb-2006 | 15:00 | 0.9 | W |
| 25-Feb-2006 | 16:00 | 0 | --- |
| 25-Feb-2006 | 17:00 | 0.4 | W |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 25-Feb-2006 | 18:00 | 0.4 | ENE |
| 25-Feb-2006 | 19:00 | 0 | --- |
| 25-Feb-2006 | 20:00 | 0 | --- |
| 25-Feb-2006 | 21:00 | 0 | --- |
| 25-Feb-2006 | 22:00 | 0.9 | WNW |
| 25-Feb-2006 | 23:00 | 0.4 | WNW |
| 26-Feb-2006 | 0:00 | 1.3 | WNW |
| 26-Feb-2006 | 1:00 | 1.3 | WNW |
| 26-Feb-2006 | 2:00 | 0 | SSW |
| 26-Feb-2006 | 3:00 | 0.4 | WNW |
| 26-Feb-2006 | 4:00 | 0.9 | W |
| 26-Feb-2006 | 5:00 | 1.3 | W |
| 26-Feb-2006 | 6:00 | 2.2 | WNW |
| 26-Feb-2006 | 7:00 | 3.1 | WNW |
| 26-Feb-2006 | 8:00 | 2.7 | W |
| 26-Feb-2006 | 9:00 | 0.9 | W |
| 26-Feb-2006 | 10:00 | 2.2 | W |
| 26-Feb-2006 | 11:00 | 2.2 | W |
| 26-Feb-2006 | 12:00 | 3.1 | WNW |
| 26-Feb-2006 | 13:00 | 3.6 | W |
| 26-Feb-2006 | 14:00 | 2.7 | W |
| 26-Feb-2006 | 15:00 | 2.7 | WNW |
| 26-Feb-2006 | 16:00 | 2.7 | SW |
| 26-Feb-2006 | 17:00 | 3.1 | W |
| 26-Feb-2006 | 18:00 | 3.6 | WSW |
| 26-Feb-2006 | 19:00 | 2.7 | W |
| 26-Feb-2006 | 20:00 | 2.7 | W |
| 26-Feb-2006 | 21:00 | 3.1 | WSW |
| 26-Feb-2006 | 22:00 | 4.5 | WSW |
| 26-Feb-2006 | 23:00 | 4 | SW |
| 27-Feb-2006 | 0:00 | 5.4 | SSW |
| 27-Feb-2006 | 1:00 | 5.4 | SSW |
| 27-Feb-2006 | 2:00 | 4.5 | SW |
| 27-Feb-2006 | 3:00 | 4 | WSW |
| 27-Feb-2006 | 4:00 | 4.5 | SW |
| 27-Feb-2006 | 5:00 | 4.9 | WSW |
| 27-Feb-2006 | 6:00 | 4.5 | SSW |
| 27-Feb-2006 | 7:00 | 4.5 | WSW |
| 27-Feb-2006 | 8:00 | 4.9 | WSW |
| 27-Feb-2006 | 9:00 | 4.5 | W |
| 27-Feb-2006 | 10:00 | 5.4 | W |
| 27-Feb-2006 | 11:00 | 4.9 | WNW |
| 27-Feb-2006 | 12:00 | 4.9 | WSW |
| 27-Feb-2006 | 13:00 | 5.4 | W |
| 27-Feb-2006 | 14:00 | 4.9 | W |
| 27-Feb-2006 | 15:00 | 4.9 | WNW |
| 27-Feb-2006 | 16:00 | 4.9 | W |
| 27-Feb-2006 | 17:00 | 4.5 | WNW |
| 27-Feb-2006 | 18:00 | 4.5 | WSW |
| 27-Feb-2006 | 19:00 | 4.9 | WSW |
| 27-Feb-2006 | 20:00 | 4.5 | WSW |
| 27-Feb-2006 | 21:00 | 4.9 | SW |
| 27-Feb-2006 | 22:00 | 4.5 | WSW |
| 27-Feb-2006 | 23:00 | 3.1 | WNW |

## Appendix D - Wind Data

| Date | Time | Wind Speed m/s | Direction |
|---|---|---|---|
| 28-Feb-2006 | 0:00 | 3.6 | WNW |
| 28-Feb-2006 | 1:00 | 4.5 | WNW |
| 28-Feb-2006 | 2:00 | 2.7 | WNW |
| 28-Feb-2006 | 3:00 | 1.8 | W |
| 28-Feb-2006 | 4:00 | 2.7 | WSW |
| 28-Feb-2006 | 5:00 | 1.3 | WSW |
| 28-Feb-2006 | 6:00 | 1.8 | WSW |
| 28-Feb-2006 | 7:00 | 2.2 | WNW |
| 28-Feb-2006 | 8:00 | 1.8 | WSW |
| 28-Feb-2006 | 9:00 | 2.2 | WNW |
| 28-Feb-2006 | 10:00 | 2.2 | WSW |
| 28-Feb-2006 | 11:00 | 1.3 | WSW |
| 28-Feb-2006 | 12:00 | 1.3 | W |
| 28-Feb-2006 | 13:00 | 2.2 | WNW |
| 28-Feb-2006 | 14:00 | 3.6 | WNW |
| 28-Feb-2006 | 15:00 | 4 | WNW |
| 28-Feb-2006 | 16:00 | 2.7 | WNW |
| 28-Feb-2006 | 17:00 | 2.2 | WNW |
| 28-Feb-2006 | 18:00 | 1.3 | SW |
| 28-Feb-2006 | 19:00 | 2.2 | WSW |
| 28-Feb-2006 | 20:00 | 3.1 | WSW |
| 28-Feb-2006 | 21:00 | 2.2 | SW |
| 28-Feb-2006 | 22:00 | 1.8 | W |
| 28-Feb-2006 | 23:00 | 4 | W |

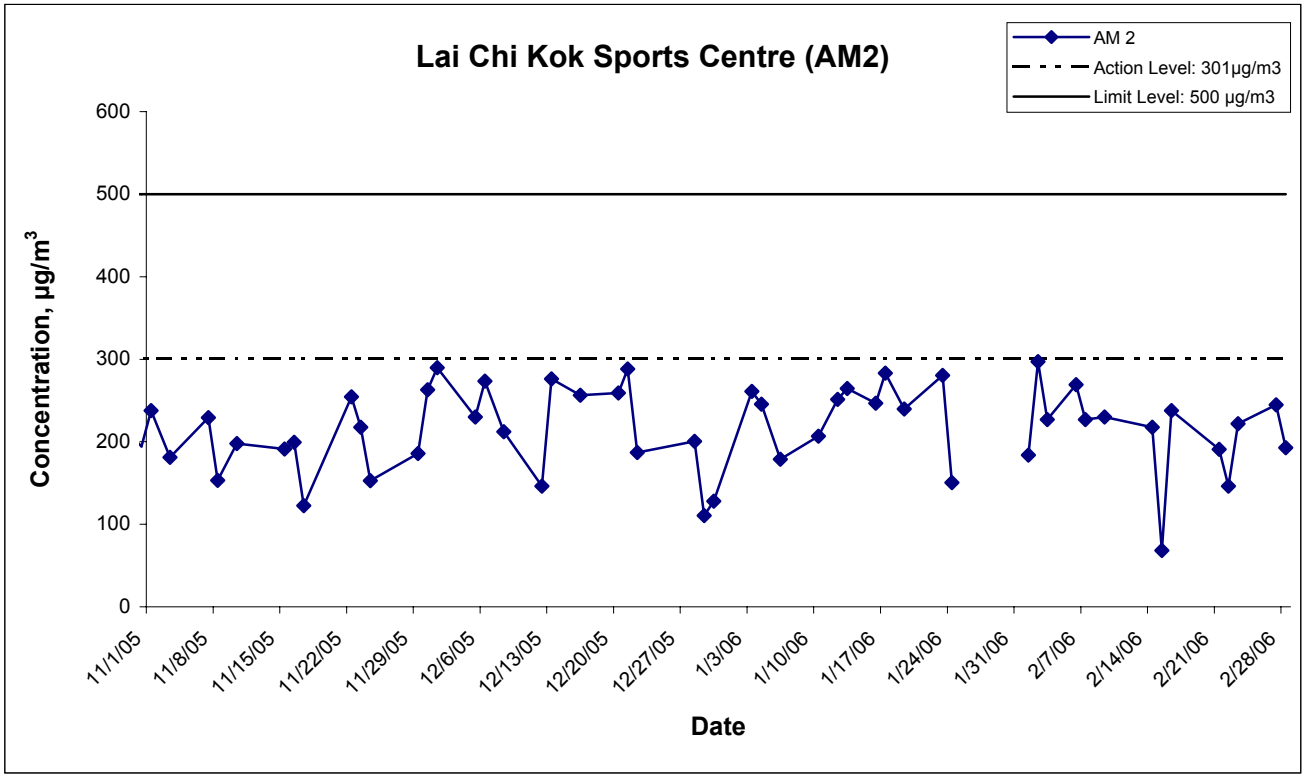
# APPENDIX E
# 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

## Appendix E - 1-hour TSP Monitoring Results

**Location AM 2 - Lai Chi Kok Sports Centre**

| Date | Weather Condition | Filter Weight (g) | | Flow Rate ($m^3$/min.) | | Elapse Time | | Air Temp. (K) | Atmospheric Pressure(Pa) | Particulate weight(g) | Av. flow ($m^3$/min) | Total vol. ($m^3$) | Sampling Time(hrs.) | Conc. ($\mu g/m^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Initial | Final | Initial | Final | Initial | Final | | | | | | | |
| 1-Feb-06 | Sunny | 2.8771 | 2.8906 | 1.21 | 1.21 | 3796.5 | 3797.5 | 295.2 | 767.0 | 0.0135 | 1.21 | 73.4 | 1.0 | 184.0 |
| 2-Feb-06 | Cloudy | 2.8793 | 2.9012 | 1.23 | 1.23 | 3797.5 | 3798.5 | 290.7 | 769.0 | 0.0219 | 1.23 | 73.7 | 1.0 | 297.3 |
| 3-Feb-06 | Sunny | 2.8546 | 2.8712 | 1.22 | 1.22 | 3806.0 | 3807.0 | 295.1 | 769.0 | 0.0166 | 1.22 | 73.2 | 1.0 | 226.9 |
| 6-Feb-06 | Sunny | 2.8949 | 2.9147 | 1.23 | 1.22 | 3807.0 | 3808.0 | 290.3 | 765.9 | 0.0198 | 1.23 | 73.6 | 1.0 | 269.1 |
| 7-Feb-06 | Sunny | 2.8618 | 2.8785 | 1.23 | 1.23 | 3810.0 | 3811.0 | 291.0 | 768.5 | 0.0167 | 1.23 | 73.6 | 1.0 | 226.8 |
| 9-Feb-06 | Sunny | 2.8738 | 2.8907 | 1.22 | 1.22 | 3833.0 | 3834.0 | 290.3 | 772.7 | 0.0169 | 1.22 | 73.5 | 1.0 | 230.1 |
| 14-Feb-06 | Rainy | 2.9008 | 2.9168 | 1.23 | 1.22 | 3834.0 | 3835.0 | 293.0 | 764.4 | 0.0160 | 1.23 | 73.5 | 1.0 | 217.7 |
| 15-Feb-06 | Sunny | 2.8621 | 2.8671 | 1.22 | 1.22 | 3859.0 | 3860.0 | 293.3 | 762.1 | 0.0050 | 1.22 | 73.1 | 1.0 | 68.4 |
| 16-Feb-06 | Cloudy | 2.8798 | 2.8971 | 1.21 | 1.21 | 3860.0 | 3861.0 | 296.3 | 762.8 | 0.0173 | 1.21 | 72.7 | 1.0 | 237.8 |
| 21-Feb-06 | Sunny | 2.8796 | 2.8936 | 1.22 | 1.22 | 3885.0 | 3886.0 | 292.1 | 765.2 | 0.0140 | 1.22 | 73.3 | 1.0 | 190.9 |
| 22-Feb-06 | Cloudy | 2.8607 | 2.8714 | 1.22 | 1.22 | 3886.0 | 3887.0 | 293.6 | 765.3 | 0.0107 | 1.22 | 73.2 | 1.0 | 146.2 |
| 23-Feb-06 | Cloudy | 2.8736 | 2.8899 | 1.22 | 1.22 | 3887.0 | 3888.0 | 291.7 | 766.3 | 0.0163 | 1.22 | 73.4 | 1.0 | 222.0 |
| 27-Feb-06 | Cloudy | 2.8655 | 2.8835 | 1.22 | 1.22 | 3912.0 | 3913.0 | 290.3 | 764.2 | 0.0180 | 1.22 | 73.5 | 1.0 | 244.9 |
| 28-Feb-06 | Rainy | 2.8673 | 2.8815 | 1.23 | 1.23 | 3913.0 | 3914.0 | 288.8 | 764.6 | 0.0142 | 1.23 | 73.7 | 1.0 | 192.7 |
| | | | | | | | | | | | | | Min | 68.4 |
| | | | | | | | | | | | | | Max | 297.3 |
| | | | | | | | | | | | | | Average | 211.1 |

## 1-hr TSP Levels




| | | | |
|---|---|---|---|
| Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin<br>Contract HY/2003/01 - Lai Chi Kok Viaduct<br>Graphical Presentation of 1-hour TSP Impact Monitoring Results | Scale: N.T.S<br>Date: Feb 06 | Project No.: MA3024<br>Appendix: E | CINOTECH |

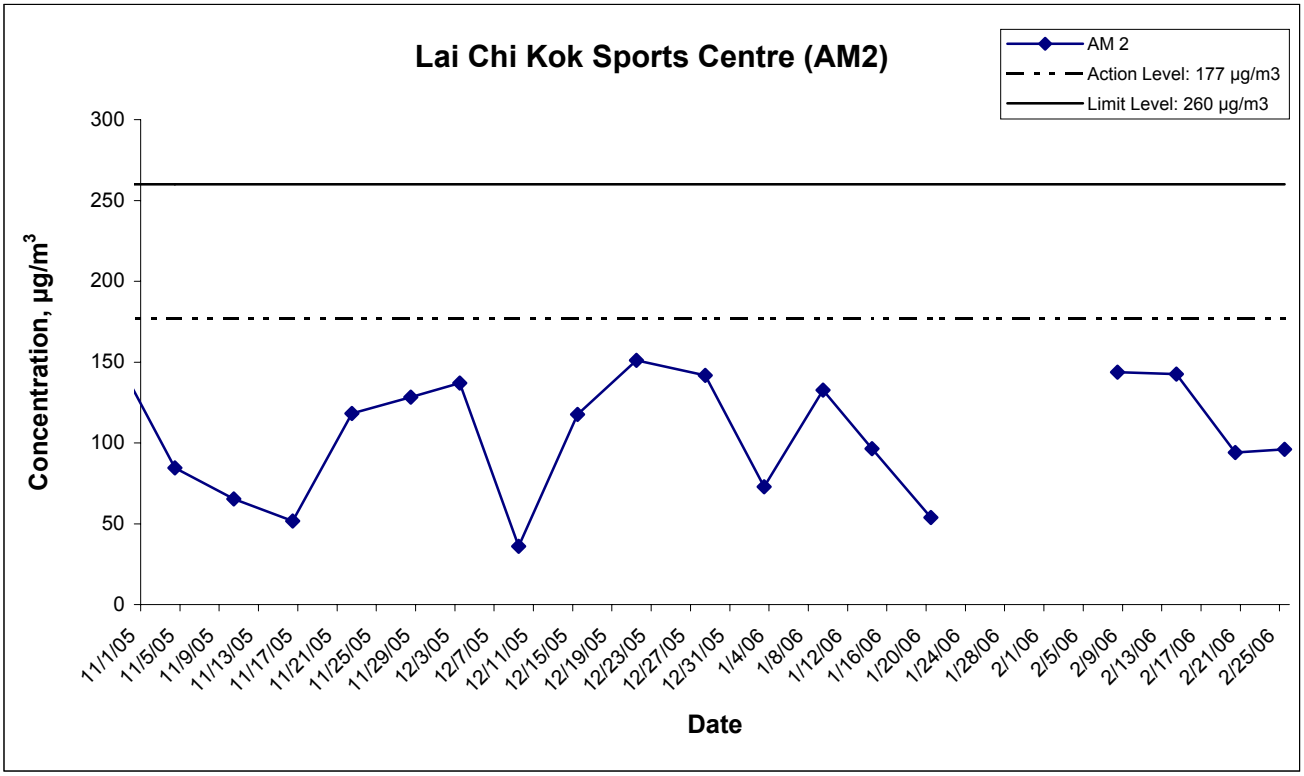
**APPENDIX F**
**24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION**

## Appendix F - 24-hour TSP Monitoring Results

**Location AM 2 - Lai Chi Kok Sports Centre**

| Date | Weather Condition | Filter Weight (g) | | Flow Rate ($m^3$/min.) | | Elapse Time | | Air Temp. (K) | Atmospheric Pressure(Pa) | Particulate weight(g) | Av. flow ($m^3$/min) | Total vol. ($m^3$) | Sampling Time(hrs.) | Conc. ($\mu g/m^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Initial | Final | Initial | Final | Initial | Final | | | | | | | |
| 8-Feb-06 | Sunny | 2.8487 | 3.0819 | 1.23 | 1.23 | 3811.0 | 3833.0 | 290.9 | 771.0 | 0.2332 | 1.23 | 1622.0 | 22.0 | 143.8 |
| 14-Feb-06 | Cloudy | 2.8729 | 3.1235 | 1.22 | 1.22 | 3835.0 | 3859.0 | 293.3 | 764.3 | 0.2506 | 1.22 | 1756.5 | 24.0 | 142.7 |
| 20-Feb-06 | Sunny | 2.8576 | 3.0245 | 1.23 | 1.23 | 3861.0 | 3885.0 | 288.1 | 767.4 | 0.1669 | 1.23 | 1774.1 | 24.0 | 94.1 |
| 25-Feb-06 | Cloudy | 2.8718 | 3.0411 | 1.22 | 1.22 | 3888.0 | 3912.0 | 290.3 | 763.2 | 0.1693 | 1.22 | 1763.0 | 24.0 | 96.0 |
| | | | | | | | | | | | | | Min | 94.1 |
| | | | | | | | | | | | | | Max | 143.8 |
| | | | | | | | | | | | | | Average | 119.1 |

## 24-hr TSP Levels




| | | | |
|---|---|---|---|
| Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin<br>Contract HY/2003/01 - Lai Chi Kok Viaduct<br>Graphical Presentation of 24-hour TSP Impact Monitoring Results | Scale: N.T.S<br>Date: Feb 06 | Project No.: MA3024<br>Appendix: F | CINOTECH |

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

## Appendix G - Noise Monitoring Results

| Location NM4 - Mei Foo Sun Chuen, Phase 5 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Time | Weather | Unit: dB (A) (30-min) | | | | | Remarks |
| | | | Measured Noise Level | | | Baseline Level | Construction Noise Level | |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | $L_{eq}$ | $L_{eq}$ | |
| 2-Feb-06 | 9:04 | Fine | 75.6 | 78.0 | 72.5 | 73.8 | 70.9 | Road traffic noise from Ching Cheung Road was identified as the major noise source. |
| 7-Feb-06 | 13:30 | Sunny | 76.8 | 78.5 | 70.0 | | 73.8 | |
| 15-Feb-06 | 13:35 | Sunny | 76.4 | 78.0 | 73.5 | | 72.9 | |
| 24-Feb-06 | 14:05 | Cloudy | 76.0 | 77.5 | 74.0 | | 72.0 | |

| Location NM8a - M/F of Nob Hill | | | | | | |
|---|---|---|---|---|---|---|
| Date | Time | Weather | Unit: dB (A) (30-min) | | | Remarks |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | |
| 2-Feb-06 | 9:58 | Fine | 72.8 | 75.0 | 69.0 | Road traffic noise from Ching Cheung Road was identified as the major noise source. |
| 7-Feb-06 | 10:00 | Sunny | 72.8 | 74.0 | 67.5 | |
| 15-Feb-06 | 14:20 | Sunny | 74.1 | 77.5 | 70.5 | |
| 22-Feb-06 | 10:50 | Cloudy | 74.3 | 76.0 | 70.5 | |

| Location NM8b - 3/F of Nob Hill | | | | | | |
|---|---|---|---|---|---|---|
| Date | Time | Weather | Unit: dB (A) (30-min) | | | Remarks |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | |
| 2-Feb-06 | 10:49 | Fine | 77.8 | 81.0 | 68.5 | Road traffic noise from Ching Cheung Road was identified as the major noise source. |
| 7-Feb-06 | 10:45 | Sunny | 77.1 | 79.0 | 68.5 | |
| 15-Feb-06 | 14:57 | Sunny | 77.8 | 805.0 | 64.0 | |
| 22-Feb-06 | 11:30 | Cloudy | 77.8 | 79.5 | 75.0 | |

| Location NM9 - Hoi Lai Estate | | | | | | |
|---|---|---|---|---|---|---|
| Date | Time | Weather | Unit: dB (A) (30-min) | | | Remarks |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | |
| 2-Feb-06 | 11:40 | Fine | 68.9 | 71.0 | 65.0 | - |
| 7-Feb-06 | 15:00 | Sunny | 73.0 | 76.0 | 65.5 | |
| 15-Feb-06 | 15L45 | Sunny | 68.9 | 71.5 | 65.0 | |
| 22-Feb-06 | 15:40 | Sunny | 72.6 | 73.5 | 69.0 | |

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

*Bolded value indicated limit level exceedance

## Appendix G - Noise Monitoring Results

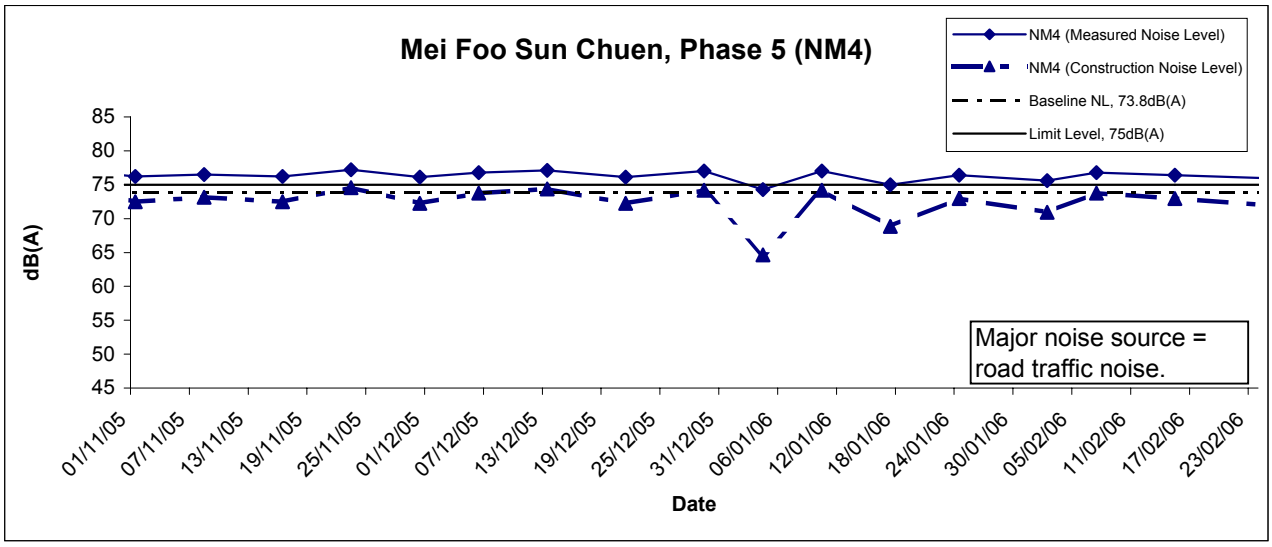
### Restricted Hours - 19:00 to 23:00 on normal weekdays

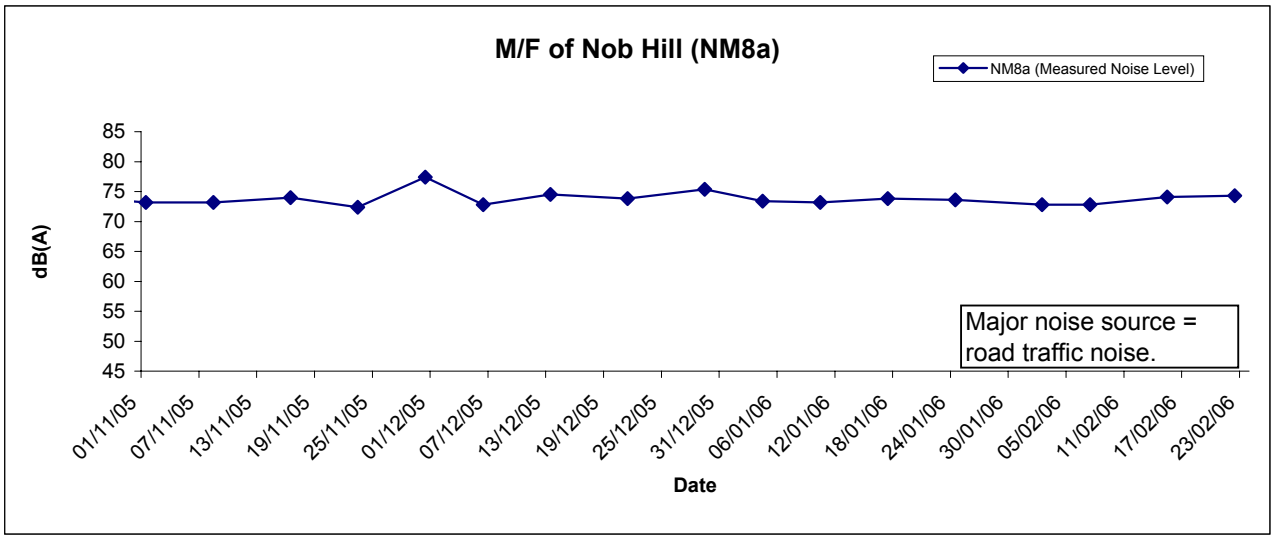
| Location NM9 - Hoi Lai Estate | | | | | | |
|---|---|---|---|---|---|---|
| Date | Time | Weather | dB (A) (5-min) | | | |
| | | | $L_{eq}$ | $L_{10}$ | $L_{90}$ | Average $L_{eq}$ |
| 3-Feb-06 | 19:15 | Cloudy | 64.1 | 67.0 | 60.0 | 64.3 |
| | 19:20 | | 64.3 | 67.0 | 60.5 | |
| | 19:25 | | 64.4 | 68.0 | 60.5 | |
| 7-Feb-06 | 19:10 | Cloudy | 63.5 | 67.0 | 60.0 | 63.4 |
| | 19:15 | | 63.7 | 67.0 | 60.0 | |
| | 19:20 | | 63.1 | 66.5 | 59.5 | |
| 14-Feb-06 | 19:00 | Cloudy | 62.1 | 66.0 | 59.0 | 62.5 |
| | 19:05 | | 62.7 | 66.0 | 60.0 | |
| | 19:10 | | 62.8 | 66.0 | 60.0 | |
| 24-Feb-06 | 19:05 | Cloudy | 63.1 | 66.5 | 60.0 | 63.4 |
| | 19:10 | | 63.5 | 67.0 | 60.0 | |
| | 19:15 | | 63.5 | 67.0 | 60.0 | |

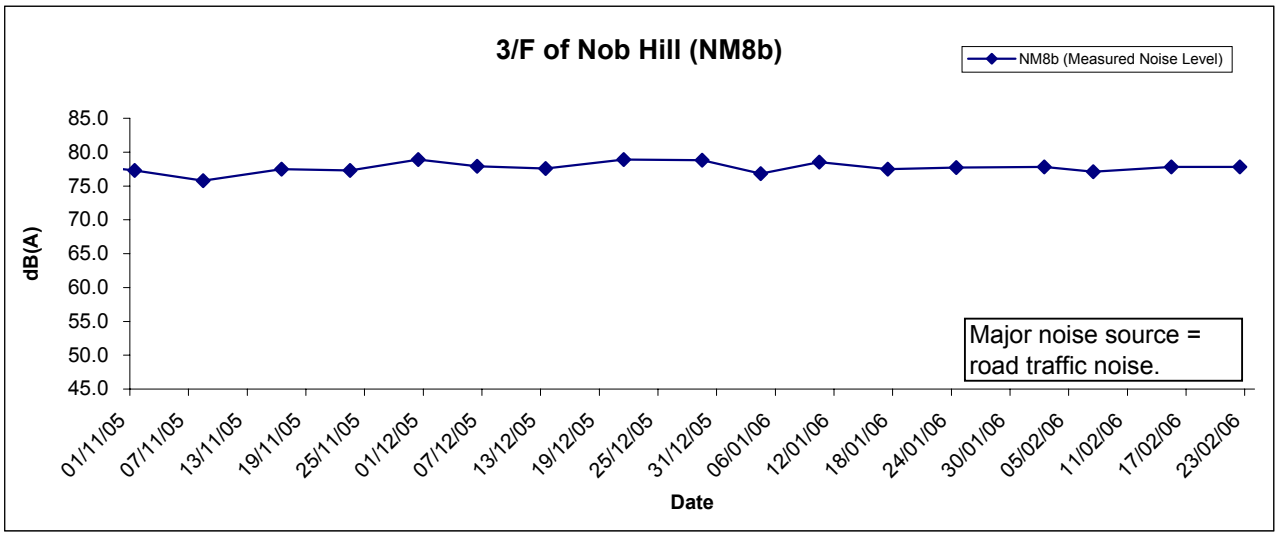
# Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

*Bolded value indicated limit level exceedance

## Noise Levels



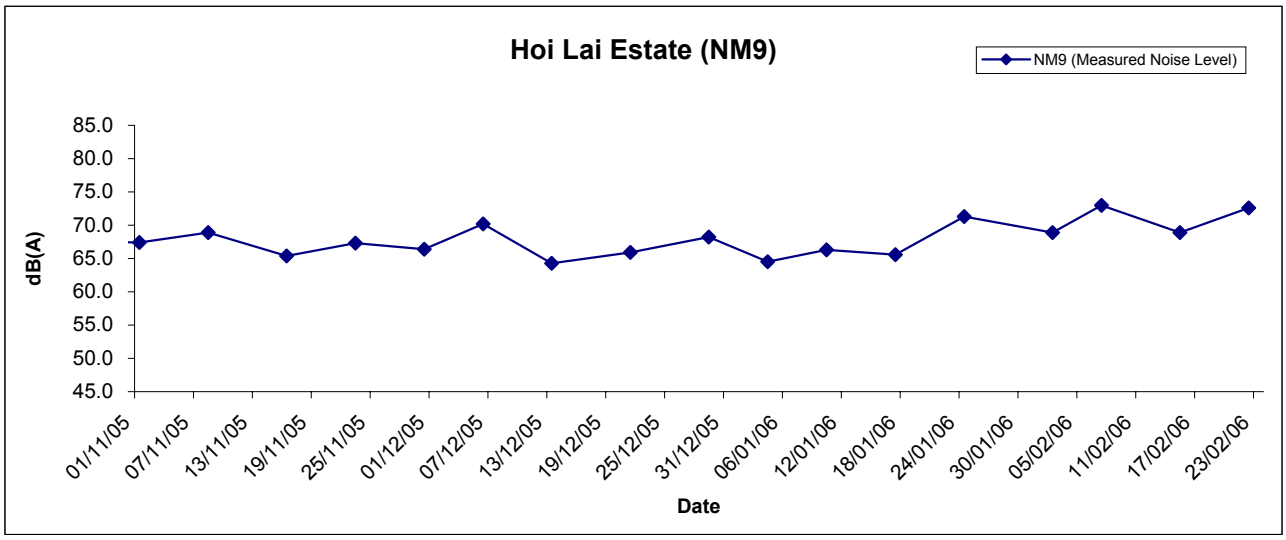




* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

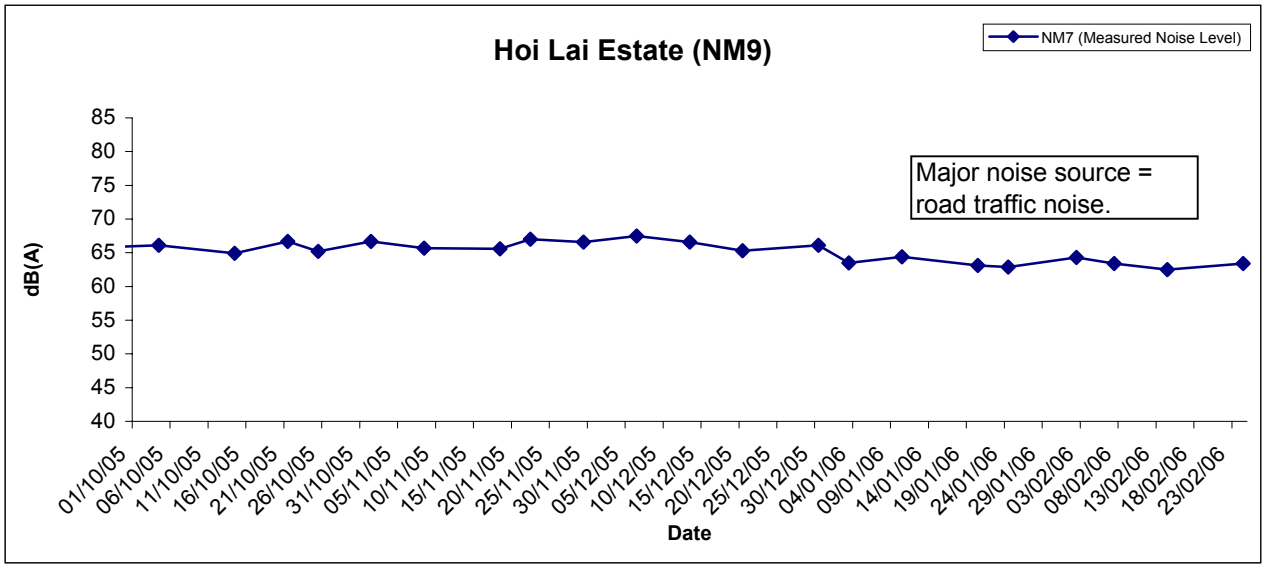
| | | | |
|---|---|---|---|
| Title: Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin<br>Contract HY/2003/01 - Lai Chi Kok Viaduct<br><br>Graphical Presentation of Construction Noise Monitoring Results | Scale: N.T.S<br>Date: Feb 06 | Project No.: MA3024<br>Appendix: G | CINOTECH |

## Noise Levels




| | | | |
|---|---|---|---|
| Title: Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin Contract HY/2003/01 - Lai Chi Kok Viaduct<br><br>Graphical Presentation of Construction Noise Monitoring Results | Scale: N.T.S<br>Date: Feb 06 | Project No.: MA3024<br>Appendix: G | CINOTECH |

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




| | | | |
|---|---|---|---|
| Title: Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin Contract HY/2003/01 - Lai Chi Kok Viaduct<br>Graphical Presentation of Construction Noise Monitoring Results | Scale: N.T.S<br>Date: Feb 06 | Project No.: MA3024<br>Appendix: G | CINOTECH |

# APPENDIX H
# SUMMARY OF EXCEEDANCE

## Summary of Exceedances Recorded in the Reporting Month

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

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

***c) Exceedance Report for Construction Noise***

- Four noise action level exceedances were recorded due to noise complaints received on 13th, 16th, 20th and 22nd Feb 06.
- No noise limit level exceedance was recorded.

**APPENDIX I**
**SITE AUDIT SUMMARY**

**Weekly Site Inspection Record Summary**

**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 60202-LCKV |
| Date | 02 February 2006 (Thru) |
| Time | 1330 – 1500 |

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

| Ref. No. | Remarks/Observations | Related Item No. |
|---|---|---|
| 60202L-01 | ***A. Water Quality***<br>• No environmental deficiency was identified during the site inspection.<br><br>***B. Air Quality***<br>• No environmental deficiency was identified during the site inspection.<br><br>***C. Noise***<br>• No environmental deficiency was identified during the site inspection.<br><br>***D. Waste / Chemical Management***<br>• Oil stain was observed on road at Mui Kong Tsuen. The Contractor was reminded to collect the stained soil.<br><br>***E. Permit / Licenses***<br>• No environmental deficiency was identified during the site inspection.<br><br>***F. Others***<br>• The environmental deficiency identified during last audit (ref. 60125-LCKV) 25 January 2006, was rectified / improved by the Contractor. | E 2i |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | CM Cheung | | 03 February 2006 |
| Checked by | Winniss Kong | | 03 February 2006 |

**Weekly Site Inspection Record Summary**

**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 60206-LCKV |
| Date | 6 February 2006 (Mon) |
| Time | 0930 – 1130 |

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

| Ref. No. | Remarks/Observations | Related Item No. |
|---|---|---|
| 60206L-01 | ***A. Water Quality***<br>• The temporary drainage system and the associated desilting facilities at the entrance of R2 were found inadequate. The Contractor was reminded to review the drainage system and provide sufficient desilting for the surface runoff and wheel wash water before discharge.<br><br>***B. Air Quality***<br>• No environmental deficiency was identified during the site inspection.<br><br>***C. Noise***<br>• No environmental deficiency was identified during the site inspection.<br><br>***D. Waste / Chemical Management*** | B1 & B7i |
| 60206L-02 | • Refuse was found scattering under the slip road near Abutment A. The Contractor was reminded to keep the site area tidy.<br><br>***E. Permit / Licenses***<br>• No environmental deficiency was identified during the site inspection.<br><br>***F. Others***<br>• The environmental deficiency identified during last audit (ref. 60202-LCKV) 2 February 2006, was rectified / improved by the Contractor. | E1iii |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | KK Chan | | 8 February 2006 |
| Checked by | Winniss Kong | | 8 February 2006 |

**Weekly Site Inspection Record Summary**

**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 60216-LCKV |
| Date | 16 February 2006 (Thu) |
| Time | 0930 – 1130 |

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

| Ref. No. | Remarks/Observations | Related Item No. |
|---|---|---|
| | ***A. Water Quality*** | |
| | • No environmental deficiency was identified during the site inspection. | |
| | ***B. Air Quality*** | |
| 60216L-01 | • The access road at the exit of Mui Kong Tsuen site was deposited with dusty materials. The Contractor was reminded to keep the access road clean. | C6 |
| 60216L-02 | • Dark smoke emission from a drilling machine was observed at Slope S1. The Contractor was reminded to keep the equipment well-maintained. | C15 |
| | ***C. Noise*** | |
| | • No environmental deficiency was identified during the site inspection. | |
| | ***D. Waste / Chemical Management*** | |
| | • No environmental deficiency was identified during the site inspection. | |
| | ***E. Permit / Licenses*** | |
| | • No environmental deficiency was identified during the site inspection. | |
| | ***F. Others*** | |
| | • The environmental deficiency identified during last audit (ref. 60206-LCKV) 6 February 2006, was rectified / improved by the Contractor. | |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | KK Chan | | 17 February 2006 |
| Checked by | Alex Ngai | | 17 February 2006 |

**Weekly Site Inspection Record Summary**

**Inspection Information**

| | |
|---|---|
| Checklist Reference Number | 60223-LCKV |
| Date | 23 February 2006 (Thu) |
| Time | 0930 – 1130 |

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

| Ref. No. | Remarks/Observations | Related Item No. |
|---|---|---|
| | ***A. Water Quality***<br>• No environmental deficiency was identified during the site inspection.<br><br>***B. Air Quality***<br>• No environmental deficiency was identified during the site inspection.<br><br>• No environmental deficiency was identified during the site inspection.<br><br>***C. Noise***<br>• No environmental deficiency was identified during the site inspection.<br><br>***D. Waste / Chemical Management***<br>• No environmental deficiency was identified during the site inspection.<br><br>***E. Permit / Licenses***<br>• No environmental deficiency was identified during the site inspection.<br><br>***F. Others***<br>• The environmental deficiency identified during last audit (ref. 60216-LCKV) 16 February 2006, was rectified / improved by the Contractor. | |

| | Name | Signature | Date |
|---|---|---|---|
| Recorded by | Tommy Ho | | 23 February 2006 |
| Checked by | KK Chan | | 23 February 2006 |

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

# Appendix J - Event Action Plans

Event/Action Plan for Air Quality

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | Contractor |
| ACTION LEVEL | | | | |
| 1. Exceedance for one sample | 1. Identify source<br>2. Inform ER & IEC<br>3. Repeat measurement to confirm finding<br>4. Increase monitoring frequency to daily | 1. Check monitoring data submitted by ET<br>2. Check Contractor's working methods | 1. Notify Contractor<br>2. Check monitoring data and Contractor's working methods | 1. Rectify any unacceptable practice<br>2. Amend working methods if appropriate |
| 2. Exceedance for two or more consecutive samples | 1. Identify source<br>2. Inform ER & IEC<br>3. Repeat measurement to confirm findings<br>4. Increase monitoring frequency to daily<br>5. Discuss with ER & for remedial actions required<br>6. If exceedance continues, arrange meeting with ER & IEC<br>7. If exceedance stops, cease additional monitoring | 1. Checking monitoring data submitted by ET<br>2. Check Contractor's working methods<br>3. Discuss with ET and Contractor on possible remedial measure<br>4. Advise the ER & ET on the effectiveness of the proposed remedial measures<br>5. Supervise the implementation of the remedial measures | 1. Confirm receipt of notification of failure in writing<br>2. Notify Contractor<br>3. Check Contractor's working methods<br>4. Discuss with ET, IEC and Contractor on proposed remedial actions<br>5. Ensure remedial actions properly implemented | 1. Submit proposals for remedial actions to ER within 3 working days of notification<br>2. Implement the agreed proposals<br>3. Amend proposal if appropriate |
| LIMIT LEVEL | | | | |
| 1. Exceedance for one sample | 1. Identify source<br>2. Inform ER & IEC and EPD<br>3. Repeat measurement to confirm finding<br>4. Increase monitoring frequency to daily<br>5. Assess effectiveness of Contractor's | 1. Checking monitoring data submitted by ET<br>2. Check Contractor's working methods<br>3. Discuss with ET and Contractor on possible remedial measure | 1. Confirm receipt of notification of failure in writing<br>2. Notify Contractor<br>3. Check Contractor's working methods<br>4. Discuss with ET, IEC and Contractor on | 1. Take immediate action to avoid further exceedance<br>2. Submit proposals for remedial actions to ER within 3 working days of notification |

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

Event/Action Plan for Construction Noise

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

| Exceedance | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | Contractor |
| Limit Level | 1. Repeat measurement to confirm findings<br><br>2. Investigate the cause of the exceedance and identify the main source(s) of impact<br><br>3. Inform ER&IEC and EPD in writing<br><br>4. Discuss remedial actions required with ER&IEC<br>5. Increase monitoring frequency to demonstrate efficacy of remedial measures<br><br>6. Assess efficacy of remedial actions and keep ER & IEC informed of the results<br>7. If exceedance continues, meet with ER&IEC to identify appropriate mitigation measures<br>8. If exceedance stops, cease additional monitoring | 1. Check monitoring data submitted by ET<br><br>2. Review Contractor's remedial actions to assure their effectiveness and advise the ER &ET accordingly<br><br>3. Supervise the implementation of the remedial measures | 1. Confirm receipt of notification of exceedance and notify Contractor<br><br>2. Check monitoring data trends and Contractor's working methods<br><br>3. Discuss with ET, IEC and Contractor on proposed remedial actions to be implemented<br><br>4. Assess the efficacy of remedial actions and keep the Contractor informed<br>5. If exceedance continuous, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is aborted | 1. Take immediate action to avoid further exceedance<br><br>2. Submit proposals for remedial actions to ER immediately not more than 3 working days of notification<br>3. Amend proposals if required by the ER<br><br>4. Implement remedial actions immediately upon instruction<br>5. Liaise with the ER to optimize the effectiveness of the agreed mitigation<br><br>6. Resubmit proposals if problem still not under control<br>7. Stop the relevant portion of works as determined by the ER until the exceedance is aborted |

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

**Appendix K - Summary of Environmental Mitigation Implementation Schedule**

| Types of Impacts | Mitigation Measures | Status |
|---|---|---|
| **Construction Dust** | • 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. | ^ |
| | • A stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones. | ^ |
| | • Vehicle washing facilities should be provided at every exit point. | ^ |
| | • 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. | ^ |
| | • 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. | ^ |
| | • Every main haul road should be sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet. | ^ |
| | • 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. | ^ |
| | • Any stockpile of dusty materials should be either covered entirely be 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. | ^ |
| | • 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. | ^ |
| | • Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site. | ^ |
| | • 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. | ^ |
| **Construction Noise** | • Only well-maintained plant should be operated on –site and plant should be serviced regularly during the construction works. | ^ |
| | • Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. | ^ |
| | • Plant know to emit noise strongly in one direction, should where possible, be orientated to direct noise away from the NSRS. | ^ |
| | • Mobile plant should be sited as far away from NSRs as possible. | ^ |
| | • Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. | ^ |
| | • Use quite plant and Working Method | ^ |
| | • Reduce the number of plant operating in critical areas close NSRs. | ^ |
| | • Construct temporary and movable noise barriers | ^ |

| Types of Impacts | Mitigation Measures | Status |
|---|---|---|
| **Water Quality** | *Construction Runoff and Drainage* | |
| | • Use of sediment traps and the adequate maintenance of drainage systems to prevent flooding and overflow. | ^ |
| | • 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. | ^ |
| | • 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 | ^ |
| | • 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. | ^ |
| | • 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. | N/A |
| | • Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks. | ^ |
| | • 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. | ^ |
| | • 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. | ^ |
| | • 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. | ^ |
| | *Tunnelling Work* | |
| | • 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. | N/A |
| | • 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. | N/A |
| | • Spend 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. | N/A |

| Types of Impacts | Mitigation Measures | Status |
|---|---|---|
| | *General Construction Activities* | |
| | • Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column and cause water quality impacts. | ^ |
| | • 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). | ^ |
| | *Sewage Effluent* | |
| | • Construction work force sewage discharges form 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. | ^ |
| | • It is considered that sewage discharges could also be treated by on-site septic tanks and soakaway. Minimum clearance away form 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. | N/A |
| **Waste** | *General* | |
| | • 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. | ^ |
| | *Storage, Collection and Transportation of Waste* | |
| | • Wastes shall be handled and stored in a manner to ensure that they are held securely without loss or leakage. | ^ |
| | • Authorised or licensed waste hauliers shall be used and they shall only collect wastes prescribed by their permits. | ^ |
| | • Waste shall be removed on a daily basis. | ^ |
| | • Waste storage area shall be maintained and cleaned on a daily basis. | ^ |
| | • Windblown litter and dust during transportation shall be minimised by either covering trucks or transporting wastes in enclosed containers. | ^ |
| | • Obtain necessary waste disposal permits from the appropriate authorities if they are required. | ^ |
| | • Wastes shall be disposed of at licensed waste disposal facilities. | ^ |
| | • 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. | ^ |
| | • Maintain records of the quantities of wastes generated, recycled and disposed. | ^ |
| | *Surplus Excavated Materials* | |
| | • 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. | ^ |
| | *Construction and Demolition (C&D) Waste* | |

| Types of Impacts | Mitigation Measures | Status |
|---|---|---|
| | • Careful design, planning and good site management shall be adopted to minimise over-ordering and generation of waste materials such as concrete grouts.<br>• 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.<br>• Construction and demolition (C&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. | ^<br>N/A<br>^ |
| | *Chemical Waste* | |
| | • Chemical waste that is produce during construction shall be handled in accordance with the Cod of Practice on the Packaging, Handling and Storage of Chemical Wastes.<br>• Containers used for the storage of chemical wastes should:<br>a. Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;<br>b. Have a capacity of less than 450 litres unless the specifications have been approved by the EPD;<br>c. Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations.<br>• The storage area for chemical wastes should:<br>a. Be clearly labelled and used solely for the storage of chemical waste;<br>b. Be enclosed on at least 3 sides;<br>c. 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;<br>d. Have adequate ventilation;<br>e. Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary);<br>f. Be arranged so that incompatible materials are adequately separated.<br>• 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). | ^<br>^<br>^<br>^ |
| | *General Refuse* | |
| | • General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&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.<br>• Reusable rather than disposable dishware shall be used if feasible. | ^<br>^ |

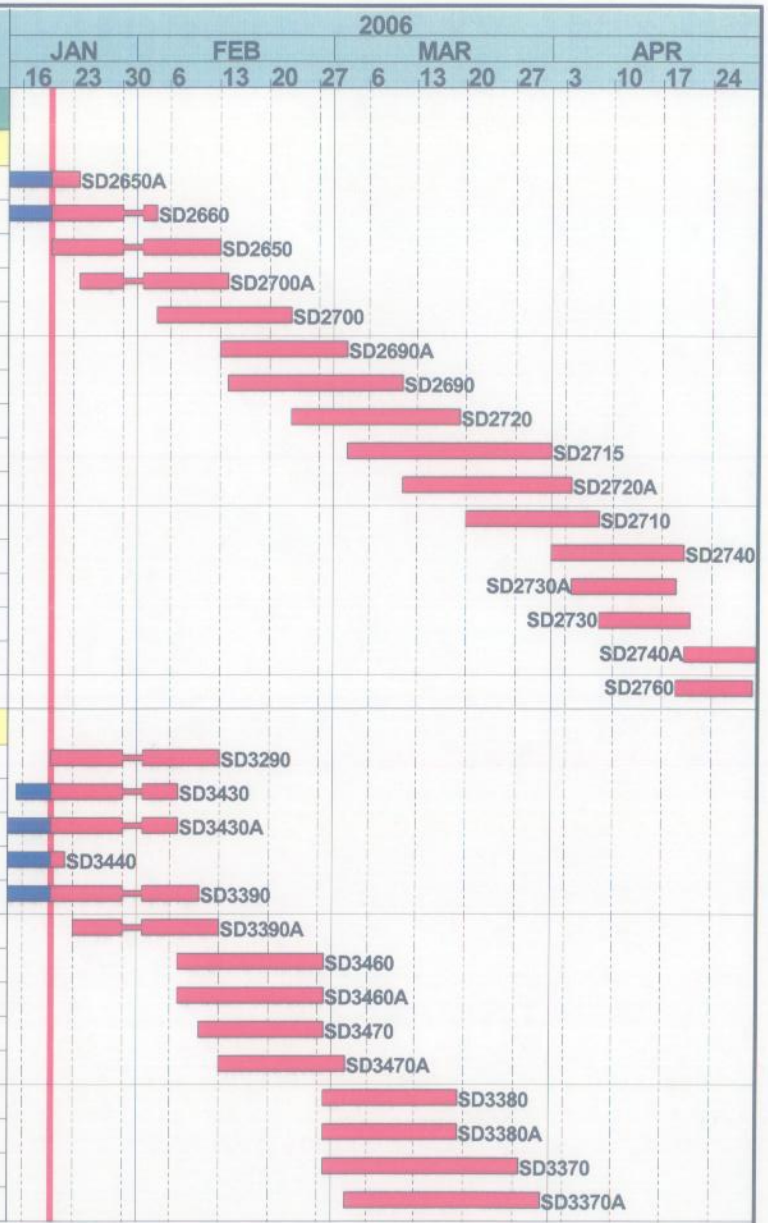
| Types of Impacts | Mitigation Measures | Status |
|---|---|---|
| **Ecology** | • A sediment barrier shall be erected to minimize stream sedimentation at downstream of the project boundary of the Toll Plaza.<br>• Conduct a tree survey before commencement of the construction work.<br>• All measures 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.<br>• Loss of the adjacent woodland due to temporary land take shall be returned to the original status immediately.<br>• Wild and uncontrolled fire shall be strictly prohibited<br>• 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. | N/A<br>^<br>^<br>N/A<br>^<br>N/A |
| **Landscape and Visual Impact** | • 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.<br>• 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.<br>• Measurement of vibration would also be carried out on a need basis during the piling work | ^<br>^<br>^ |

Remarks:

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

# APPENDIX L
# CONSTRUCTION PROGRAMME

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| **Procurement** | | | | | | |
| **Segmental Deck Casting (Type A Units)** | | | | | | |
| SD2650A | P17/L-Up - Cast 9 Segments Type A | 17 | 09JAN06A | 23JAN06 | 09JAN06A | 23SEP05 |
| SD2660 | P17/R-Up - Cast 12 Segments Type A | 20 | 12JAN06A | 03FEB06 | 12JAN06A | 28SEP05 |
| SD2650 | P17/L-Down - Cast 9 Segments Type A | 18 | 20JAN06 | 12FEB06 | 08SEP05 | 27SEP05 |
| SD2700A | P19/R-Down - Cast 10 Segments Type A | 16 | 24JAN06 | 13FEB06 | 15NOV05 | 01DEC05 |
| SD2700 | P19/R-Up - Cast 10 Segments Type A | 17 | 04FEB06 | 22FEB06 | 18NOV05 | 06DEC05 |
| SD2690A | P19/L-Down - Cast 9 Segments Type A | 16 | 13FEB06 | 02MAR06 | 30NOV05 | 17DEC05 |
| SD2690 | P19/L-Up - Cast 9 Segments Type A | 22 | 14FEB06 | 10MAR06 | 02DEC05 | 26DEC05 |
| SD2720 | P20/L-Down - Cast 13 Segments Type A | 22 | 23FEB06 | 18MAR06 | 07DEC05 | 30DEC05 |
| SD2715 | P20/R-Down - Cast 12 Segments Type A | 26 | 03MAR06 | 31MAR06 | 18DEC05 | 15JAN06 |
| SD2720A | P20/L-Up - Cast 13 Segments Type A | 21 | 11MAR06 | 03APR06 | 27DEC05 | 18JAN06 |
| SD2710 | P20/R-Up - Cast 12 Segments Type A | 17 | 20MAR06 | 07APR06 | 31DEC05 | 18JAN06 |
| SD2740 | P21/R-Down - Cast 9 Segments Type A | 17 | 01APR06 | 19APR06 | 16JAN06 | 07FEB06 |
| SD2730A | P21/L-Up - Cast 8 Segments Type A | 14 | 04APR06 | 18APR06 | 19JAN06 | 07FEB06 |
| SD2730 | P21/L-Down - Cast 8 Segments Type A | 12 | 08APR06 | 20APR06 | 19JAN06 | 04FEB06 |
| SD2740A | P21/R-Up - Cast 9 Segments Type A | 14 | 20APR06 | 06MAY06 | 08FEB06 | 22FEB06 |
| SD2760 | Abutment M/R - Cast 5 Segments Type A | 10 | 19APR06 | 29APR06 | 21FEB06 | 03MAR06 |
| **Segmental Deck Casting (Type B Units)** | | | | | | |
| SD3290 | PA/L (North) - Cast 9 seg Type B | 18 | 20JAN06 | 12FEB06 | 18MAY05 | 06JUN05 |
| SD3430 | D2-Pierhead & Up - Cast 14 Segments Type B | 22 | 15JAN06A | 06FEB06 | 15JAN06A | 26SEP05 |
| SD3430A | D2-Down - Cast 13 Segments Type B | 22 | 10JAN06A | 06FEB06 | 10JAN06A | 26SEP05 |
| SD3440 | D1-Pierhead & Up - Cast 11 Segs Type B | 20 | 17DEC05A | 21JAN06 | 17DEC05A | 17SEP05 |
| SD3390 | D6-Pierhead & Up - Cast 9 seg Type B | 16 | 30NOV05A | 09FEB06 | 30NOV05A | 08OCT05 |
| SD3390A | D6-Pierhead & Down - Cast 9 seg Type B | 16 | 23JAN06 | 12FEB06 | 19SEP05 | 06OCT05 |
| SD3460 | P19 Slip C-Up - Cast 10 Segments Type B | 19 | 07FEB06 | 27FEB06 | 27SEP05 | 19OCT05 |
| SD3460A | P19 Slip C-Down - Cast 10 Segments Type B | 19 | 07FEB06 | 27FEB06 | 27SEP05 | 19OCT05 |
| SD3470 | P19 Slip D-Up - Cast 8 Segments Type B | 16 | 10FEB06 | 27FEB06 | 10OCT05 | 26OCT05 |
| SD3470A | P19 Slip D-Down - Cast 8 Segments Type B | 16 | 13FEB06 | 02MAR06 | 07OCT05 | 24OCT05 |
| SD3380 | D7-Up - Cast 9 seg Type B | 18 | 28FEB06 | 18MAR06 | 20OCT05 | 08NOV05 |
| SD3380A | D7-Down - Cast 9 seg Type B | 18 | 28FEB06 | 18MAR06 | 20OCT05 | 08NOV05 |
| SD3370 | D8-Up - Cast 15 Segments Type B | 25 | 28FEB06 | 27MAR06 | 27OCT05 | 23NOV05 |
| SD3370A | D8-Down - Cast 15 Segments Type B | 25 | 03MAR06 | 30MAR06 | 25OCT05 | 21NOV05 |



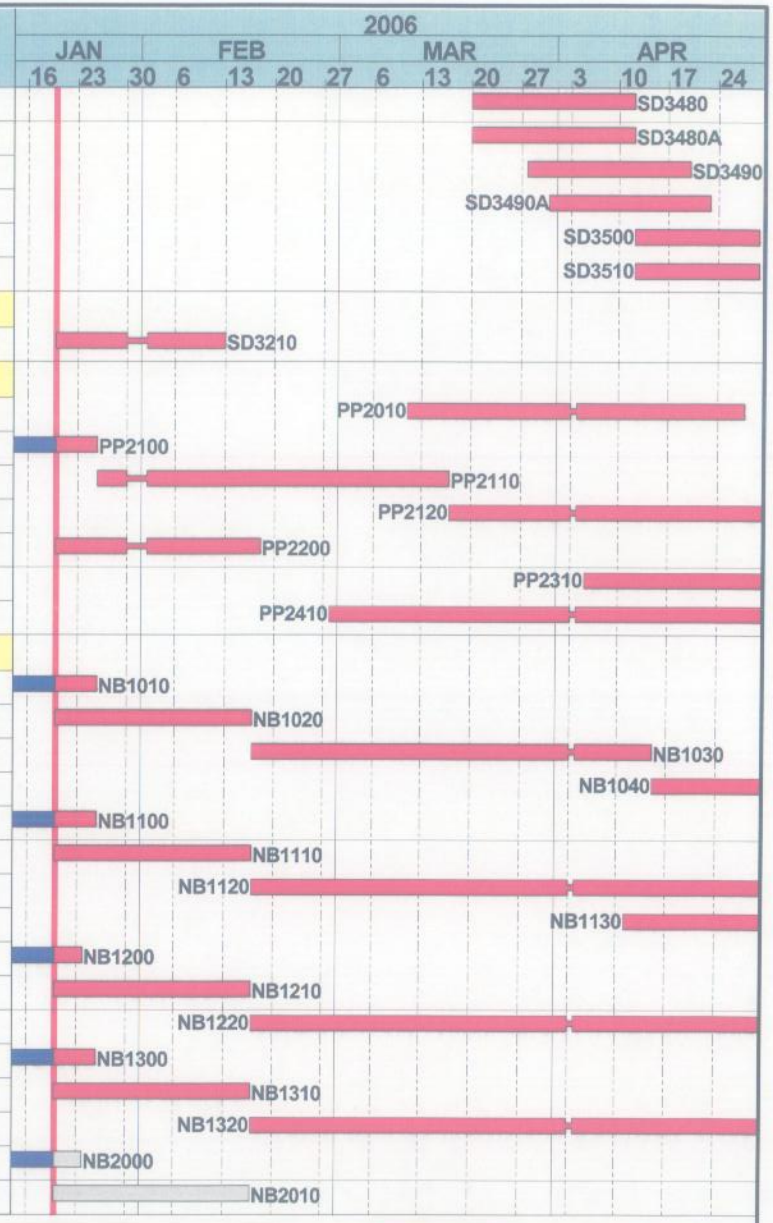

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 1 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| SD3480 | P20 Slip D-Up - Cast 12 Segments Type B | 21 | 20MAR06 | 11APR06 | 04JAN06 | 26JAN06 |
| SD3480A | P20 Slip D-Down - Cast 12 Segments Type B | 21 | 20MAR06 | 11APR06 | 06JAN06 | 28JAN06 |
| SD3490 | P20 Slip C-Up - Cast 13 Segments Type B | 21 | 28MAR06 | 19APR06 | 13JAN06 | 08FEB06 |
| SD3490A | P20 Slip C-Down - Cast 13 Segments Type B | 21 | 31MAR06 | 22APR06 | 13JAN06 | 08FEB06 |
| SD3500 | P21 Slip C-Down - Cast 8 Segments Type B | 16 | 12APR06 | 29APR06 | 27JAN06 | 16FEB06 |
| SD3510 | P21 Slip D-Down - Cast 8 Segments Type B | 16 | 12APR06 | 29APR06 | 02FEB06 | 18FEB06 |
| **Segmental Deck Casting (Type C Units)** | | | | | | |
| SD3210 | PA/R-Up - Cast 9 seg Type C | 18 | 20JAN06 | 12FEB06 | 06JUL05 | 26JUL05 |
| **Precast Parapet Panel Casting** | | | | | | |
| PP2010 | Casting Type I Parapet Units 266 - 565 | 40 | 11MAR06 | 27APR06 | 16SEP05 | 04NOV05 |
| PP2100 | Casting Type II Parapet Units 1 - 265 | 55 | 20OCT05A | 25JAN06 | 20OCT05A | 03AUG05 |
| PP2110 | Casting Type II Parapet Units 266 - 565 | 40 | 26JAN06 | 16MAR06 | 04AUG05 | 20SEP05 |
| PP2120 | Casting Type II Parapet Units 566 - 865 | 40 | 17MAR06 | 04MAY06 | 27JAN06 | 17MAR06 |
| PP2200 | Casting Type IIII Parapet Units 1 - 22 | 22 | 20JAN06 | 17FEB06 | 24AUG05 | 17SEP05 |
| PP2310 | Casting Type IV Parapet Units 181 - 383 | 70 | 05APR06 | 27JUN06 | 06SEP05 | 29NOV05 |
| PP2410 | Casting Type V Parapet Units 181 - 383 | 70 | 28FEB06 | 22MAY06 | 13AUG05 | 05NOV05 |
| **Noise Barriers & Enclosures** | | | | | | |
| NB1010 | Noise Encl' - Slip Rd A - Design & Shop Drawings | 23 | 07JUL05A | 25JAN06 | 07JUL05A | 28APR05 |
| NB1020 | Noise Encl' - Slip Rd A - Eng. Review & Approval | 28 | 20JAN06 | 16FEB06 | 23APR05 | 20MAY05 |
| NB1030 | Noise Encl' - Slip Rd A - Materials Purchasing | 48 | 17FEB06 | 14APR06 | 21MAY05 | 18JUL05 |
| NB1040 | Noise Encl' - Slip Rd A - Off-site Fabrication | 85 | 15APR06 | 26JUL06 | 19JUL05 | 28OCT05 |
| NB1100 | Noise Encl' - Slip Rd B - Design & Shop Drawings | 23 | 07JUL05A | 25JAN06 | 07JUL05A | 29APR05 |
| NB1110 | Noise Encl' - Slip Rd B - Eng. Review & Approval | 28 | 20JAN06 | 16FEB06 | 25APR05 | 22MAY05 |
| NB1120 | Noise Encl' - Slip Rd B - Materials Purchasing | 72 | 17FEB06 | 13MAY06 | 23MAY05 | 16AUG05 |
| NB1130 | Noise Encl' - Slip Rd B - Off-site Fabrication | 100 | 11APR06 | 09AUG06 | 15JUL05 | 11NOV05 |
| NB1200 | Noise Encl' - P8 to P11 - Design & Shop Drawings | 60 | 10SEP05A | 23JAN06 | 10SEP05A | 05MAY05 |
| NB1210 | Noise Encl' - P8 to P11 - Eng. Review & Approval | 28 | 20JAN06 | 16FEB06 | 03MAY05 | 30MAY05 |
| NB1220 | Noise Encl' - P8 to P11 - Materials Purchasing | 65 | 17FEB06 | 05MAY06 | 31MAY05 | 16AUG05 |
| NB1300 | Noise Encl' - ENT Approach - Design & Shop Dwgs. | 23 | 07JUL05A | 25JAN06 | 07JUL05A | 08JUL05 |
| NB1310 | Noise Encl' - ENT Approach - Eng. Review & Appro | 28 | 20JAN06 | 16FEB06 | 04JUL05 | 31JUL05 |
| NB1320 | Noise Encl' - ENT Approach - Material Purchasing | 100 | 17FEB06 | 15JUN06 | 01AUG05 | 28NOV05 |
| NB2000 | Noise Barriers - PA to P4 - Design & Shop Dwgs. | 82 | 19AUG05A | 23JAN06 | 19AUG05A | 03FEB06 |
| NB2010 | Noise Barriers - PA to P4 - Eng. Review & Appro' | 28 | 20JAN06 | 16FEB06 | 29JAN06 | 25FEB06 |




Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06



P3 File : LU28

Sheet 2 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

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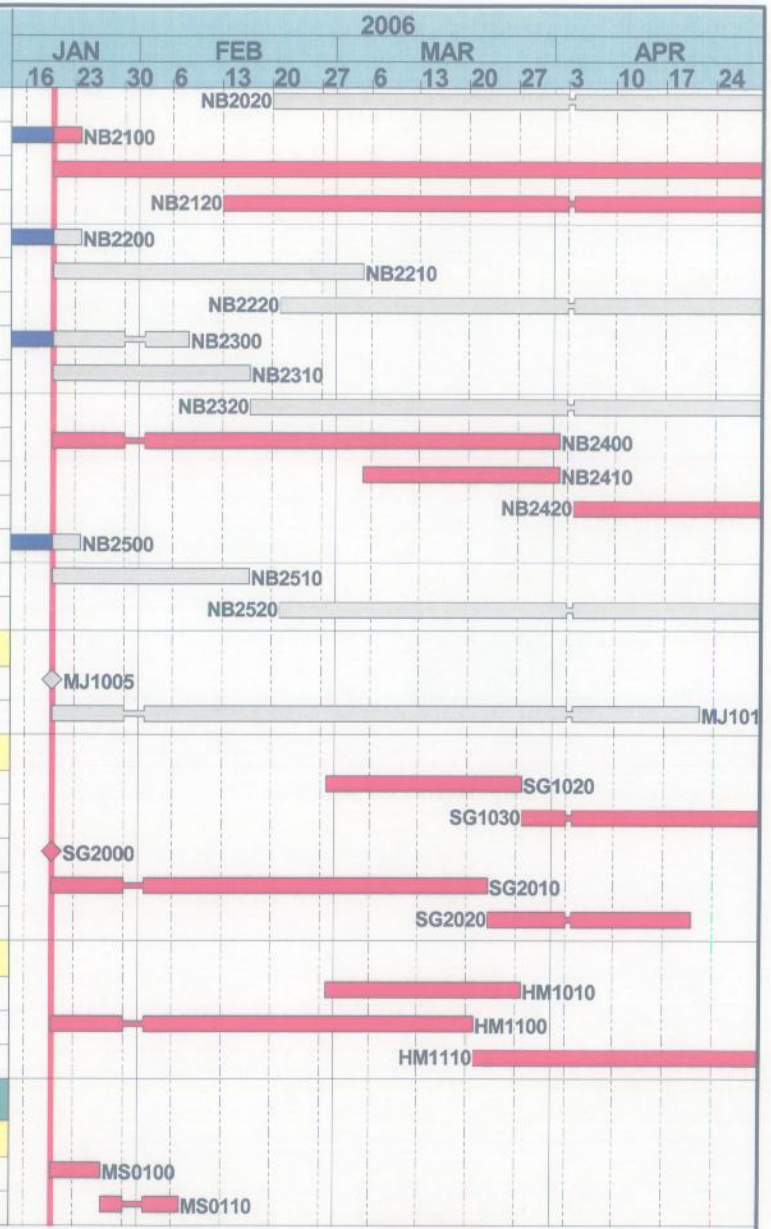
| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| NB2020 | Noise Barriers - PA to P4 - Materials Purchasing | 95 | 20FEB06 | 12JUN06 | 28FEB06 | 21JUN06 |
| NB2100 | Noise Barriers - P5 to P8 - Design & Shop Dwgs. | 147 | 05SEP05A | 23JAN06 | 05SEP05A | 23JAN06 |
| NB2110 | Noise Barriers - P5 to P8 - Eng. Review & Appro' | 115 | 20JAN06 | 14MAY06 | 20JAN06 | 14MAY06 |
| NB2120 | Noise Barriers - P5 to P8 - Materials Purchasing | 163 | 13FEB06 | 26AUG06 | 13FEB06 | 26AUG06 |
| NB2200 | Noise Barriers - P11 to P13 - Design & Shop Dwgs | 82 | 20JUL05A | 23JAN06 | 20JUL05A | 13FEB06 |
| NB2210 | Noise Barriers - P11 to P13 -Eng Review & Approv | 44 | 20JAN06 | 04MAR06 | 10FEB06 | 25MAR06 |
| NB2220 | Noise Barriers - P11 to P13 - Materials Purchase | 82 | 21FEB06 | 29MAY06 | 14MAR06 | 19JUN06 |
| NB2300 | Noise Barriers - ENT Approach -Des'n & Shop Dwgs | 82 | 24AUG05A | 07FEB06 | 24AUG05A | 07MAR06 |
| NB2310 | Noise Barriers - ENT Approach -Eng Rev & Approv | 28 | 20JAN06 | 16FEB06 | 21FEB06 | 20MAR06 |
| NB2320 | Noise Barriers - ENT Approach -Material Purchase | 70 | 17FEB06 | 11MAY06 | 21MAR06 | 12JUN06 |
| NB2400 | Noise Barriers - Slip Rd. C - Design & Shop Dwgs | 82 | 20JAN06* | 01APR06 | 09DEC05 | 21FEB06 |
| NB2410 | Noise Barriers - Slip Rd. C - Eng Rev & Approv | 28 | 05MAR06 | 01APR06 | 25JAN06 | 21FEB06 |
| NB2420 | Noise Barriers - Slip Rd. C - Material Purchase | 70 | 04APR06 | 26JUN06 | 22FEB06 | 16MAY06 |
| NB2500 | Noise Barriers - Slip Rd. D - Design & Shop Dwgs | 82 | 11JUL05A | 23JAN06 | 11JUL05A | 28FEB06 |
| NB2510 | Noise Barriers - Slip Rd. D - Eng Rev & Approv | 28 | 20JAN06 | 16FEB06 | 26FEB06 | 25MAR06 |
| NB2520 | Noise Barriers - Slip Rd. D - Material Purchase | 105 | 21FEB06 | 26JUN06 | 30MAR06 | 04AUG06 |
| **Movement Joints** | | | | | | |
| MJ1005 | Engineer's approval of Proprietary Type of M.J | 0 | 20JAN06 | | 21JAN06 | |
| MJ1010 | Detailed Design & Shop Drawings | 75 | 20JAN06 | 21APR06 | 21JAN06 | 22APR06 |
| **Signage** | | | | | | |
| SG1020 | Sign Gantries - Review/Appro of Design & S/Dwgs. | 24 | 28FEB06 | 27MAR06 | 09AUG05 | 05SEP05 |
| SG1030 | Sign Gantries - Off-Site Fabrication of Gantries | 75 | 28MAR06 | 26JUN06 | 06SEP05 | 05DEC05 |
| SG2000 | Signage - Award of Sub-contract | 0 | 20JAN06 | | 18FEB05 | |
| SG2010 | Signage - Shop Drawings | 50 | 20JAN06 | 22MAR06 | 18FEB05 | 18APR05 |
| SG2020 | Signage - Review & Approval of Shop Drawings. | 24 | 23MAR06 | 20APR06 | 19APR05 | 17MAY05 |
| **High Mast Lighting** | | | | | | |
| HM1010 | High Mast Lighting - Approval of Found'n Design | 24 | 28FEB06 | 27MAR06 | 04NOV05 | 01DEC05 |
| HM1100 | High Mast Lighting - Mast Design & Shop Drawings | 48 | 20JAN06 | 20MAR06 | 15JUL05 | 08SEP05 |
| HM1110 | High Mast Lighting - Approval of Mast Design | 56 | 21MAR06 | 15MAY06 | 09SEP05 | 03NOV05 |
| **Viaduct - Main Line - Piers PA to P6** | | | | | | |
| **Substructure** | | | | | | |
| MS0100 | PA/L - Install Bearings | 6 | 20JAN06 | 26JAN06 | 06JUN05 | 13JUN05 |
| MS0110 | PA/R - Install Bearings | 6 | 27JAN06 | 06FEB06 | 26JUL05 | 01AUG05 |



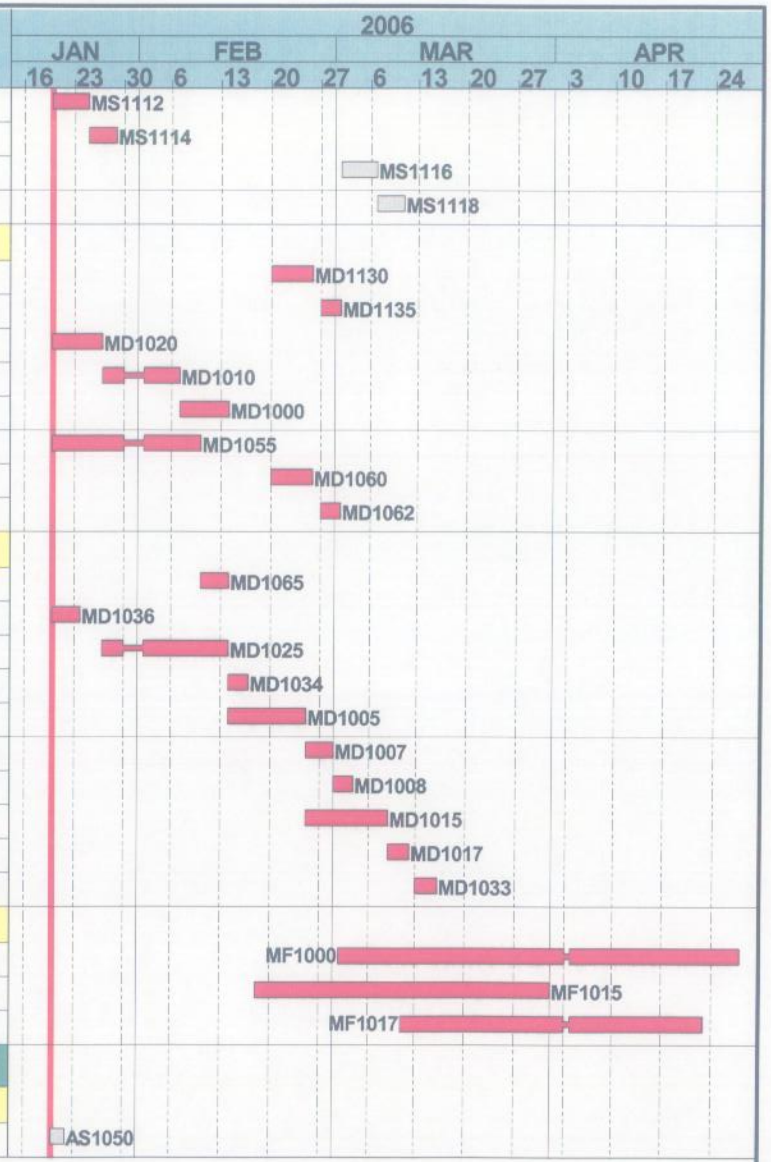

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 3 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| MS1112 | P1/R - Temporary Props for Spans - Founds | 4 | 20JAN06 | 24JAN06 | 15JUL05 | 19JUL05 |
| MS1114 | P1/R - Temporary Props for Spans - Towers | 4 | 25JAN06 | 28JAN06 | 20JUL05 | 23JUL05 |
| MS1116 | P1/R - Remove Temporary Props for Spans - Towers | 4 | 02MAR06 | 06MAR06 | 25SEP08 | 29SEP08 |
| MS1118 | P1/R - Remove Temporary Props for Spans - Towers | 4 | 07MAR06 | 10MAR06 | 30SEP08 | 04OCT08 |
| **Main Line - Segmental Deck Construction (Crane)** | | | | | | |
| MD1130 | PA/L - 9 Segments Type B on Scaffold | 6 | 20FEB06 | 25FEB06 | 14JUN05 | 20JUN05 |
| MD1135 | PA/L to P1/L - Insitu Stitch | 3 | 27FEB06 | 01MAR06 | 21JUN05 | 23JUN05 |
| MD1020 | P4/R - 1st. Pair - 2 Segments Type C | 6 | 20JAN06 | 26JAN06 | 22JUN05 | 28JUN05 |
| MD1010 | P5/R - 1st. Pair - 1 Type C & 1 Type B | 6 | 27JAN06 | 06FEB06 | 29JUN05 | 06JUL05 |
| MD1000 | P5 (B4)Slip B - 1st. Pair - 2 Segments Type B | 6 | 07FEB06 | 13FEB06 | 07JUL05 | 13JUL05 |
| MD1055 | P1/R - 30 Segments Type C | 15 | 20JAN06 | 09FEB06 | 15JUL05 | 01AUG05 |
| MD1060 | PA/R - 9 Segments Type C on Scaffold | 6 | 20FEB06 | 25FEB06 | 02AUG05 | 08AUG05 |
| MD1062 | PA/R to P1/R - Insitu Stitch | 3 | 27FEB06 | 01MAR06 | 13AUG05 | 16AUG05 |
| **Main Line - Segmental Deck Const'n (Lift Frames)** | | | | | | |
| MD1065 | P1/R to P2/R - Instiu Stitch | 3 | 10FEB06 | 13FEB06 | 14SEP05 | 16SEP05 |
| MD1036 | P2/R to P3/R - Insitu Stitch | 3 | 20JAN06 | 23JAN06 | 23MAR05 | 25MAR05 |
| MD1025 | P4/R - 28 Segments Type C | 12 | 27JAN06 | 13FEB06 | 31AUG05 | 13SEP05 |
| MD1034 | P3/R to P4/R) - Insitu Stitch | 3 | 14FEB06 | 16FEB06 | 14SEP05 | 16SEP05 |
| MD1005 | P5 (B4) Slip B - 22 Segments Type B | 10 | 14FEB06 | 24FEB06 | 14JUL05 | 25JUL05 |
| MD1007 | P5/R (B4) Slip B to P6 Slip B - Insitu Stitch | 3 | 25FEB06 | 28FEB06 | 26JUL05 | 28JUL05 |
| MD1008 | P5/R (B4) Slip B to B3 - Insitu Stitch | 3 | 01MAR06 | 03MAR06 | 29JUL05 | 01AUG05 |
| MD1015 | P5/R - 11 Type C & 11 Type B | 10 | 25FEB06 | 08MAR06 | 23SEP05 | 05OCT05 |
| MD1017 | P5/R to P6/R - Insitu Stitch | 3 | 09MAR06 | 11MAR06 | 06OCT05 | 08OCT05 |
| MD1033 | P4/R to P5/R - Insitu Stitch | 3 | 13MAR06 | 15MAR06 | 29OCT05 | 01NOV05 |
| **Superstructure Finishing Works Required for TCSS** | | | | | | |
| MF1000 | PA to P6 - Parapets PA/L to P3/L (incl earthing) | 48 | 02MAR06 | 27APR06 | 24JUN05 | 19AUG05 |
| MF1015 | PA to P6 - Insitu Slab to Under Median Barrier | 36 | 18FEB06 | 31MAR06 | 22OCT05 | 02DEC05 |
| MF1017 | PA to P6 - Median Barrier (incl earthing) | 36 | 11MAR06 | 22APR06 | 12NOV05 | 23DEC05 |
| **Viaduct - Slip Road A** | | | | | | |
| **Substructure** | | | | | | |
| AS1050 | Abutment A - Install Bearings | 2 | 20JAN06 | 21JAN06 | 21JAN06 | 23JAN06 |



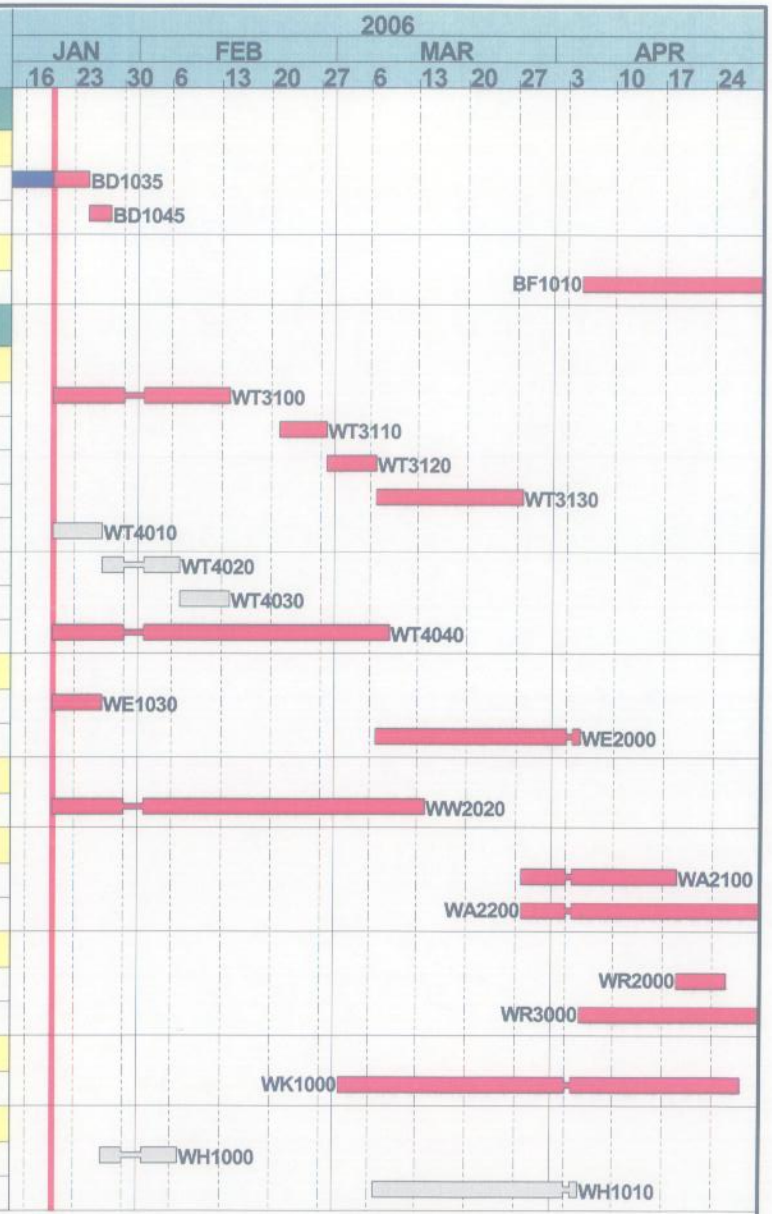

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 4 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| **Viaduct - Slip Road B** | | | | | | |
| **Main Line - Segmental Deck Const'n (Lift Frames)** | | | | | | |
| BD1035 | B3 - 28 seg Type B | 12 | 14JAN06A | 24JAN06 | 14JAN06A | 13JUL05 |
| BD1045 | B2 - B3 Insitu Stitch | 3 | 25JAN06 | 27JAN06 | 05AUG05 | 08AUG05 |
| **Superstructure Finishing Works Required for TCSS** | | | | | | |
| BF1010 | Slip Rd.B to P7 - Parapets East Face (incl earth | 75 | 05APR06 | 04JUL06 | 09AUG05 | 07NOV05 |
| **At Grade Works - Lai Po Road** | | | | | | |
| **Temporary Traffic Management Schemes** | | | | | | |
| WT3100 | 3rd. TTMS Lai Po Road - Prepare for Review | 18 | 20JAN06 | 13FEB06 | 23APR05 | 14MAY05 |
| WT3110 | 3rd. TTMS Lai Po Road - CRE Endorsement | 6 | 21FEB06 | 27FEB06 | 25JUN05 | 02JUL05 |
| WT3120 | 3rd. TTMS Lai Po Road - Roadworks Advice | 6 | 28FEB06 | 06MAR06 | 04JUL05 | 09JUL05 |
| WT3130 | 3rd. TTMS Lai Po Rd - Site Preparation for Divsn | 18 | 07MAR06 | 27MAR06 | 11JUL05 | 30JUL05 |
| WT4010 | TTMS Deck Erect'n @ Rd D S/B - CRE Endorsement | 6 | 20JAN06 | 26JAN06 | 12SEP08 | 18SEP08 |
| WT4020 | TTMS Deck Erect'n @ Rd D S/B - Roadworks Advice | 6 | 27JAN06 | 06FEB06 | 19SEP08 | 26SEP08 |
| WT4030 | TTMS Deck Erect'n @ Rd D S/B - Site Preparation | 6 | 07FEB06 | 13FEB06 | 27SEP08 | 04OCT08 |
| WT4040 | TTMS Deck Erect'n @ Rd D S/B - Implementation | 38* | 20JAN06 | 08MAR06 | 22JUN05 | 05OCT05 |
| **Earthworks & Slope Works** | | | | | | |
| WE1030 | Lai Po Road S/B - Remove Segment Storage Area | 6 | 20JAN06 | 26JAN06 | 27OCT05 | 02NOV05 |
| WE2000 | Lai Po Road S/B - Fill to Embankment | 24 | 07MAR06 | 04APR06 | 26MAR05 | 23APR05 |
| **Retaining Wall LCK-R2** | | | | | | |
| WW2020 | Ret. Wall LCK-R2 - Walls | 42 | 20JAN06 | 13MAR06 | 12FEB05 | 01APR05 |
| **Drainage Works** | | | | | | |
| WA2100 | Lai Po Road S/B -Ramp @ Slip Rd B Storm Drainage | 18 | 28MAR06 | 18APR06 | 16JUN05 | 07JUL05 |
| WA2200 | Lai Po Road S/B - Stormwater Drainage | 36 | 28MAR06 | 10MAY06 | 18APR05 | 30MAY05 |
| **Utilities & Roadworks** | | | | | | |
| WR2000 | Lai Po Road S/B @ Ramp to Slip Rd B - Formation | 6 | 19APR06 | 25APR06 | 08JUL05 | 14JUL05 |
| WR3000 | High Mast Lighting (3 No. Mast) - Foundations | 36 | 05APR06 | 17MAY06 | 02DEC05 | 14JAN06 |
| **Kiosk at Lai Wan Interchange** | | | | | | |
| WK1000 | Kiosk at Lai Wan Interchange - Structure | 48 | 02MAR06 | 27APR06 | 17AUG05 | 14OCT05 |
| **Lai Po Road Fire Hydrant Pump House** | | | | | | |
| WH1000 | Lai Po Rd. F/H Pump House - Plate Load Test | 6 | 27JAN06 | 06FEB06 | 22JUL06 | 28JUL06 |
| WH1010 | Lai Po Rd. F/H Pump House - Structure | 24 | 07MAR06 | 04APR06 | 31JUL06 | 26AUG06 |




Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06



P3 File : LU28



**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

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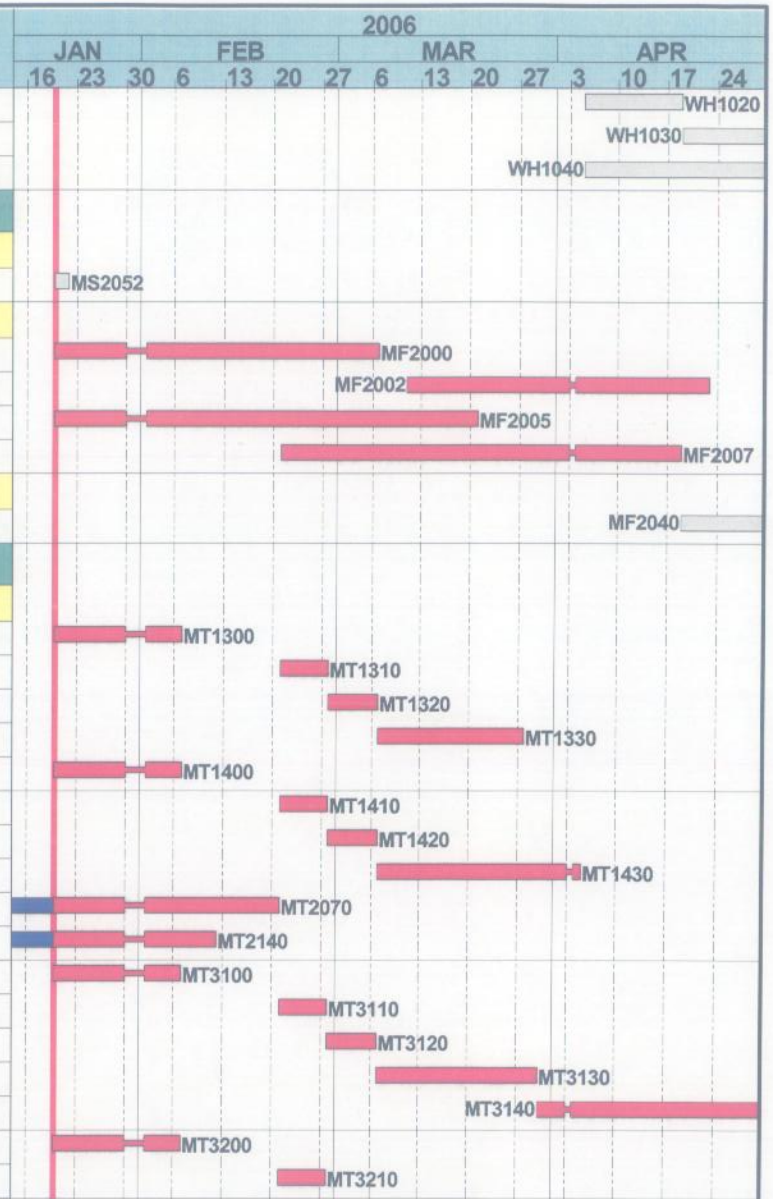
| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| WH1020 | Lai Po Rd. F/H Pump House - Waterproofing | 12 | 05APR06 | 18APR06 | 02SEP06 | 15SEP06 |
| WH1030 | Lai Po Rd. F/H Pump House - Building Finishes | 36 | 19APR06 | 31MAY06 | 16SEP06 | 31OCT06 |
| WH1040 | Lai Po Rd. F/H Pump House - MVAC Installation | 30 | 05APR06 | 10MAY06 | 28AUG06 | 03OCT06 |
| **Viaduct - Main Line - Piers P7 to P10** | | | | | | |
| **Substructure** | | | | | | |
| MS2052 | P7 Install Bearings | 2 | 20JAN06 | 21JAN06 | 07NOV06 | 08NOV06 |
| **Superstructure Finishing Works Required for TCSS** | | | | | | |
| MF2000 | P7 to P10 - Parapets P7 to P8 (incl earthing) | 36 | 20JAN06 | 06MAR06 | 23AUG05 | 05OCT05 |
| MF2002 | P7 to P10 - Parapets P9 to P10 (incl earthing) | 36 | 11MAR06 | 22APR06 | 22SEP05 | 04NOV05 |
| MF2005 | P7 to P10 - Insitu Slab to Under Median Barrier | 48 | 20JAN06 | 20MAR06 | 21JUN05 | 16AUG05 |
| MF2007 | P7 to P10 - Median Barrier (incl earthing) | 48 | 21FEB06 | 18APR06 | 20JUL05 | 13SEP05 |
| **Remaining Superstructure Finishing Works** | | | | | | |
| MF2040 | P7 to P10 - Deck Drainage | 48 | 19APR06 | 14JUN06 | 15SEP06 | 13NOV06 |
| **At Grade Works - Lai Chi Kok Interchange** | | | | | | |
| **Temporary Traffic Management Schemes** | | | | | | |
| MT1300 | 2nd. TTMS Butterfly Valley Rd-Prepare for Review | 12 | 20JAN06 | 06FEB06 | 30APR05 | 14MAY05 |
| MT1310 | 2nd. TTMS Butterfly Valley Rd - CRE Endorsement | 6 | 21FEB06 | 27FEB06 | 30JUN05 | 07JUL05 |
| MT1320 | 2nd. TTMS Butterfly Valley Rd - Roadworks Advice | 6 | 28FEB06 | 06MAR06 | 08JUL05 | 14JUL05 |
| MT1330 | 2nd. TTMS Butterfly Valley Rd - Prepare | 18 | 07MAR06 | 27MAR06 | 15JUL05 | 04AUG05 |
| MT1400 | 3rd TTMS Butterfly Valley Rd -Prepare for Review | 12 | 20JAN06 | 06FEB06 | 23APR05 | 07MAY05 |
| MT1410 | 3rd. TTMS Butterfly Valley Rd - CRE Endorsement | 6 | 21FEB06 | 27FEB06 | 10SEP05 | 16SEP05 |
| MT1420 | 3rd. TTMS Butterfly Valley Rd - Roadworks Advice | 6 | 28FEB06 | 06MAR06 | 17SEP05 | 24SEP05 |
| MT1430 | 3rd. TTMS Butterfly Valley Rd - Prepare | 24 | 07MAR06 | 04APR06 | 26SEP05 | 25OCT05 |
| MT2070 | TTMS Case No.027 (P7 Piling) - Implementation | 516* | 03JUN04A | 20FEB06 | 03JUN04A | 18JAN06 |
| MT2140 | TTMS for Pier P8/L - Implementation | 594* | 23FEB04A | 11FEB06 | 23FEB04A | 11NOV05 |
| MT3100 | 2nd. TTMS Kom Tsun Street - Prepare for Review | 12 | 20JAN06 | 06FEB06 | 30APR05 | 14MAY05 |
| MT3110 | 2nd. TTMS Kom Tsun Street - CRE Endorsement | 6 | 21FEB06 | 27FEB06 | 17MAY05 | 23MAY05 |
| MT3120 | 2nd. TTMS Kom Tsun Street - Roadworks Advice | 6 | 28FEB06 | 06MAR06 | 24MAY05 | 30MAY05 |
| MT3130 | 2nd. TTMS Kom Tsun Street - Site Preparation | 20 | 07MAR06 | 29MAR06 | 31MAY05 | 23JUN05 |
| MT3140 | 2nd. TTMS Kom Tsun Street - Implementation | 122* | 30MAR06 | 24AUG06 | 14SEP05 | 18NOV05 |
| MT3200 | 3rd. TTMS Kom Tsun Street - Prepare for Review | 12 | 20JAN06 | 06FEB06 | 23APR05 | 07MAY05 |
| MT3210 | 3rd. TTMS Kom Tsun Street - CRE Endorsement | 6 | 21FEB06 | 27FEB06 | 03OCT05 | 08OCT05 |



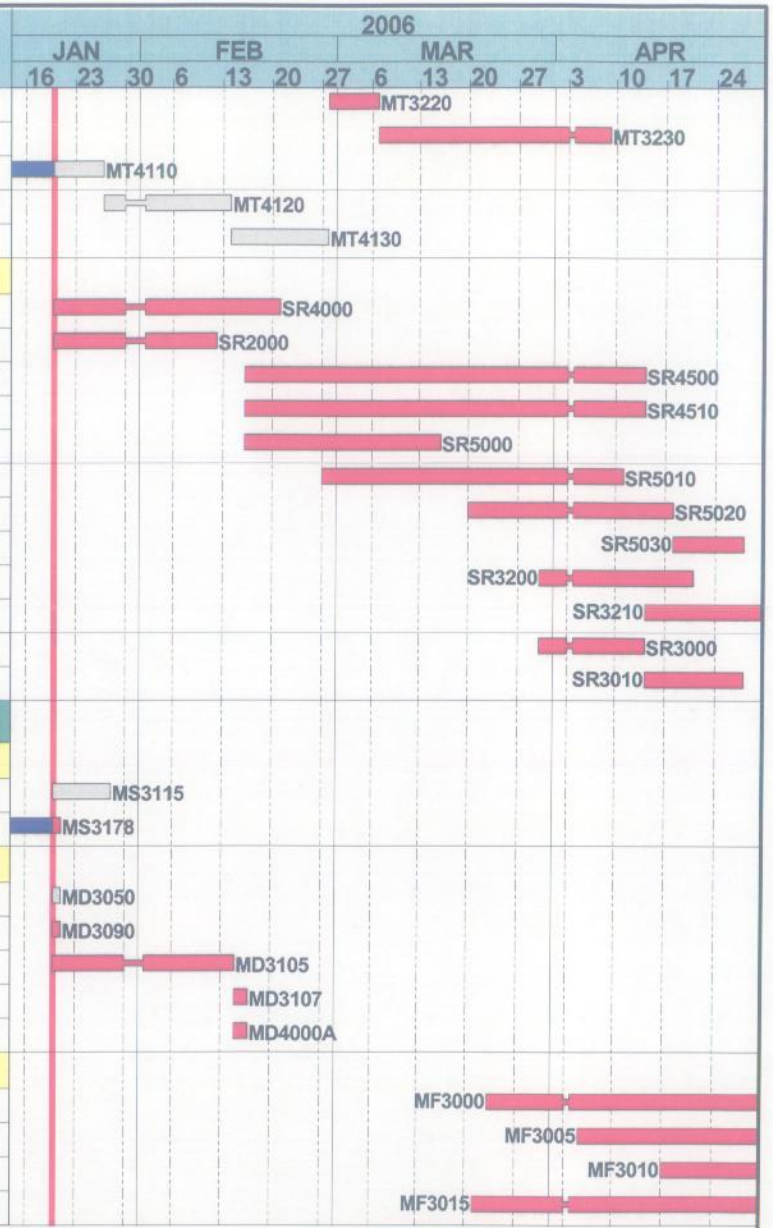

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 6 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| MT3220 | 3rd. TTMS Kom Tsun Street - Roadworks Advice | 6 | 28FEB06 | 06MAR06 | 10OCT05 | 17OCT05 |
| MT3230 | 3rd. TTMS Kom Tsun Street - Site Preparation | 28 | 07MAR06 | 08APR06 | 18OCT05 | 18NOV05 |
| MT4110 | TTMS Deck Erect'n @ B.V. Rd - CRE Endorsement | 6 | 19JUL05A | 26JAN06 | 19JUL05A | 04SEP08 |
| MT4120 | TTMS Deck Erect'n @ B.V. Rd - Roadworks Advice | 12 | 27JAN06 | 13FEB06 | 05SEP08 | 18SEP08 |
| MT4130 | TTMS Deck Erect'n @ B.V. Rd - Site Preparation | 12 | 14FEB06 | 27FEB06 | 19SEP08 | 04OCT08 |
| **Utilities & Roadworks** | | | | | | |
| SR4000 | Kwai Chung Road (Pier 7) - Reinstatement | 24 | 20JAN06 | 20FEB06 | 20DEC05 | 18JAN06 |
| SR2000 | Castle Peak Road - Roadworks Reinstatement | 17 | 20JAN06 | 11FEB06 | 24OCT05 | 11NOV05 |
| SR4500 | B.V. Rd. - P8 to P9 - New CLP 11Kv Cable Laying | 48 | 16FEB06 | 13APR06 | 11MAY05 | 07JUL05 |
| SR4510 | B.V. Rd. - P9 to P10 - New CLP 11Kv Cable Laying | 48 | 16FEB06 | 13APR06 | 11MAY05 | 07JUL05 |
| SR5000 | Butterfly Valley Rd Stage1 - Excav. & Formation | 24 | 16FEB06 | 15MAR06 | 11MAY05 | 07JUN05 |
| SR5010 | Butterfly Valley Rd Stage1 - Sub-base | 36 | 27FEB06 | 10APR06 | 31MAY05 | 13JUL05 |
| SR5020 | Butterfly Valley Rd Stage1 - Kerbs | 24 | 20MAR06 | 17APR06 | 22JUN05 | 20JUL05 |
| SR5030 | Butterfly Valley Rd Stage1 - Pavement | 9 | 18APR06 | 27APR06 | 21JUL05 | 30JUL05 |
| SR3200 | Kom Tsun Street Bus Stn. - Excavate & Formation | 18 | 30MAR06 | 20APR06 | 24JUN05 | 15JUL05 |
| SR3210 | Kom Tsun Street bus Stn. - Sub-base | 18 | 14APR06 | 05MAY06 | 09JUL05 | 29JUL05 |
| SR3000 | Kom Tsun Street L/H C/Way - Excavate & Formation | 12 | 30MAR06 | 13APR06 | 14SEP05 | 28SEP05 |
| SR3010 | Kom Tsun Street L/H C/Way - Sub-base | 12 | 14APR06 | 27APR06 | 29SEP05 | 14OCT05 |
| **Viaduct - Main Line - Piers P11 to P15** | | | | | | |
| **Substructure** | | | | | | |
| MS3115 | P12 - Bearings | 7 | 20JAN06 | 27JAN06 | 26SEP08 | 04OCT08 |
| MS3178 | P13 - Remove Temporary Props for Spans - Founds | 2 | 12JAN06A | 20JAN06 | 12JAN06A | 17OCT05 |
| **Main Line - Segmental Deck Construction (Gantry)** | | | | | | |
| MD3050 | Launch Gantry back to P12/P13/14 | 1 | 20JAN06 | 20JAN06 | 04OCT08 | 04OCT08 |
| MD3090 | Launch Gantry to P14/P15/P16 | 1 | 20JAN06 | 20JAN06 | 17SEP05 | 17SEP05 |
| MD3105 | P15/L & R - 60 Segments Type A | 19 | 20JAN06 | 14FEB06 | 26JUL05 | 16AUG05 |
| MD3107 | P14/L&R to P15/L&R - Insitu Stitches | 2 | 15FEB06 | 16FEB06 | 20SEP05 | 21SEP05 |
| MD4000A | Launch Gantry to P15/P16/P17 | 2 | 15FEB06 | 16FEB06 | 17AUG05 | 18AUG05 |
| **Superstructure Finishing Works Required for TCSS** | | | | | | |
| MF3000 | P11 to P15 - Parapets P10 to P12 (incl earthing) | 36 | 23MAR06 | 05MAY06 | 05OCT05 | 16NOV05 |
| MF3005 | P11 to P15 - Parapets P12 to P14 (incl earthing) | 36 | 05APR06 | 17MAY06 | 18OCT05 | 28NOV05 |
| MF3010 | P11 to P15 - Parapets P14 to P16 (incl earthing) | 36 | 17APR06 | 29MAY06 | 29OCT05 | 09DEC05 |
| MF3015 | P11 to P15 - Insitu Slab to Under Median Barrier | 48 | 21MAR06 | 17MAY06 | 17AUG05 | 14OCT05 |



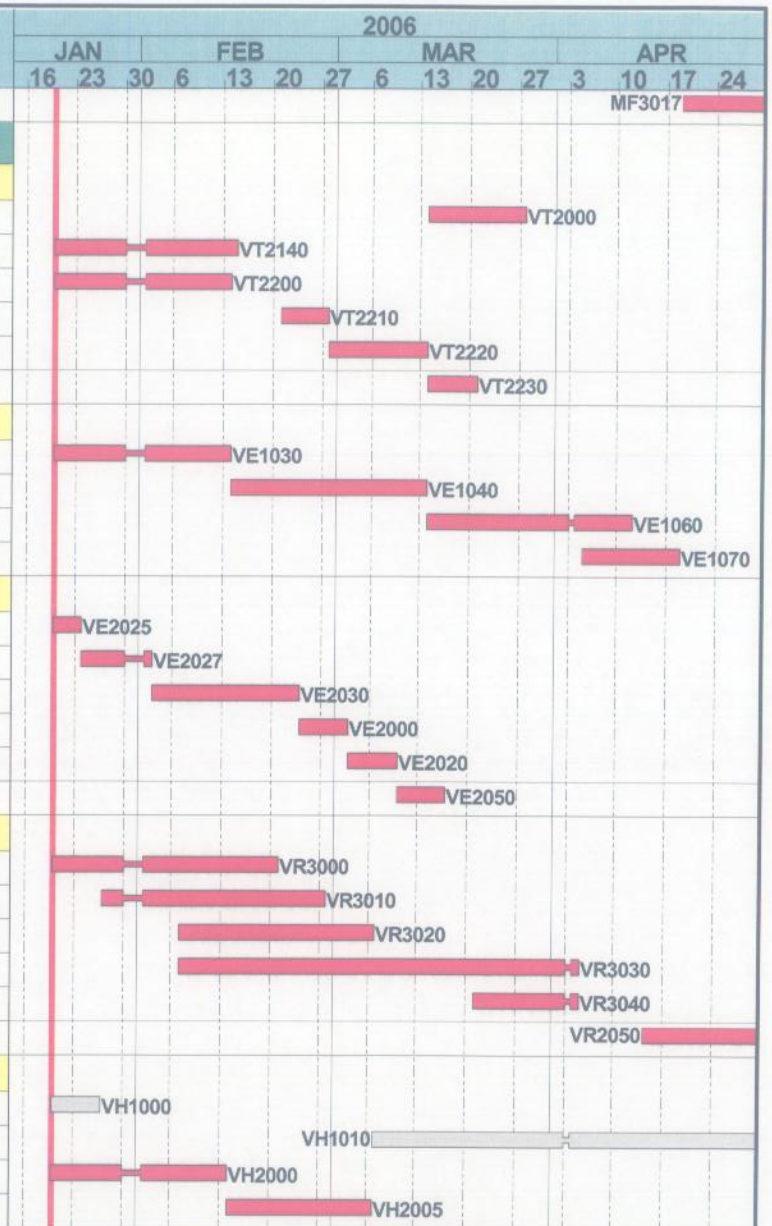

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 7 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| MF3017 | P11 to P15 - Median Barrier (incl earthing) | 48 | 19APR06 | 14JUN06 | 14SEP05 | 11NOV05 |
| **At Grade Works - Wai Man Tsuen** | | | | | | |
| **Temporary Traffic Management Schemes** | | | | | | |
| VT2000 | Temporary Slow Lane on Top of Slope CCR-R5 | 12 | 14MAR06 | 27MAR06 | 22JUL05 | 04AUG05 |
| VT2140 | TTMS MainLine Deck@ CC Rd W/B - Implementation | 19* | 20JAN06 | 14FEB06 | 26JUL05 | 16AUG05 |
| VT2200 | TTMS Slip RdD Deck@ CC Rd W/B-Prepare for Review | 18 | 20JAN06 | 13FEB06 | 23APR05 | 14MAY05 |
| VT2210 | TTMS Slip Rd D Deck@ CC Rd W/B -CRE Endorsement | 6 | 21FEB06 | 27FEB06 | 18OCT05 | 24OCT05 |
| VT2220 | TTMS Slip Rd D Deck@ CC Rd W/B -Roadworks Advice | 12 | 28FEB06 | 13MAR06 | 25OCT05 | 07NOV05 |
| VT2230 | TTMS Slip Rd D Deck@ CC Rd W/B -Site Preparation | 6 | 14MAR06 | 20MAR06 | 08NOV05 | 14NOV05 |
| **Earthworks & Slope Works** | | | | | | |
| VE1030 | Slope CCR-S5 - Excavate Existing Slope | 18 | 20JAN06 | 13FEB06 | 01JUN05 | 22JUN05 |
| VE1040 | Slope CCR-S5 - Compacted Filling | 24 | 14FEB06 | 13MAR06 | 23JUN05 | 21JUL05 |
| VE1060 | Slope CCR-S5 - Slope Drainage & Finishes | 24 | 14MAR06 | 11APR06 | 01NOV05 | 28NOV05 |
| VE1070 | Slope CCR-S5 - Landscaping & Hydroseeding | 12 | 05APR06 | 18APR06 | 22NOV05 | 05DEC05 |
| **Earthworks & Slope Works - 11NW-A/C678 & CR679** | | | | | | |
| VE2025 | Slope 11NW-A/C678 & CR679 - Platform for S.Nails | 3 | 20JAN06 | 23JAN06 | 25NOV05 | 28NOV05 |
| VE2027 | Slope 11NW-A/C678 & CR679 - Test Soil Nail | 6 | 24JAN06 | 02FEB06 | 29NOV05 | 05DEC05 |
| VE2030 | Slope 11NW-A/C678 & CR679 - Soil Nails | 18 | 03FEB06 | 23FEB06 | 06DEC05 | 27DEC05 |
| VE2000 | Slope 11NW-A/C678 & CR679 - Remove Temp Platform | 6 | 24FEB06 | 02MAR06 | 28DEC05 | 04JAN06 |
| VE2020 | Slope 11NW-A/C678 & CR679 - Trim Original Slope | 6 | 03MAR06 | 09MAR06 | 05JAN06 | 11JAN06 |
| VE2050 | Slope 11NW-A/C678 & CR679 -Landscape & Hydroseed | 6 | 10MAR06 | 16MAR06 | 12JAN06 | 18JAN06 |
| **Utilities & Roadworks** | | | | | | |
| VR3000 | Drainage Maintenance Access Rd. - Formation | 24 | 20JAN06 | 20FEB06 | 10OCT05 | 07NOV05 |
| VR3010 | Drainage Maintenance Access Rd. - Sub-base | 24 | 27JAN06 | 27FEB06 | 18OCT05 | 14NOV05 |
| VR3020 | Drainage Maintenance Access Rd. - Kerbs | 24 | 07FEB06 | 06MAR06 | 25OCT05 | 21NOV05 |
| VR3030 | Drainage Maintenance Access Rd. - Pavement | 48 | 07FEB06 | 04APR06 | 22NOV05 | 18JAN06 |
| VR3040 | Drainage Maintenance Access Rd. - Street Lights | 12 | 21MAR06 | 04APR06 | 05JAN06 | 18JAN06 |
| VR2050 | B.V. Rd - P10 to P12 - New CLP 11Kv Cable Laying | 24 | 14APR06 | 12MAY06 | 08JUL05 | 04AUG05 |
| **Wai Man Tsuen Fire Hydrant Pump House** | | | | | | |
| VH1000 | Wai Man Tsuen F/H Pump House - Plate Load Test | 6 | 20JAN06 | 26JAN06 | 28MAR06 | 04APR06 |
| VH1010 | Wai Man Tsuen F/H Pump House - Structure | 60 | 07MAR06 | 17MAY06 | 05APR06 | 14JUN06 |
| VH2000 | Fire Main - Pipework Along Maintenance Road | 18 | 20JAN06 | 13FEB06 | 10OCT05 | 31OCT05 |
| VH2005 | Fire Main - Pipework to Piers P10/R & P14 | 18 | 14FEB06 | 06MAR06 | 10DEC05 | 31DEC05 |




Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06



P3 File : LU28



**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

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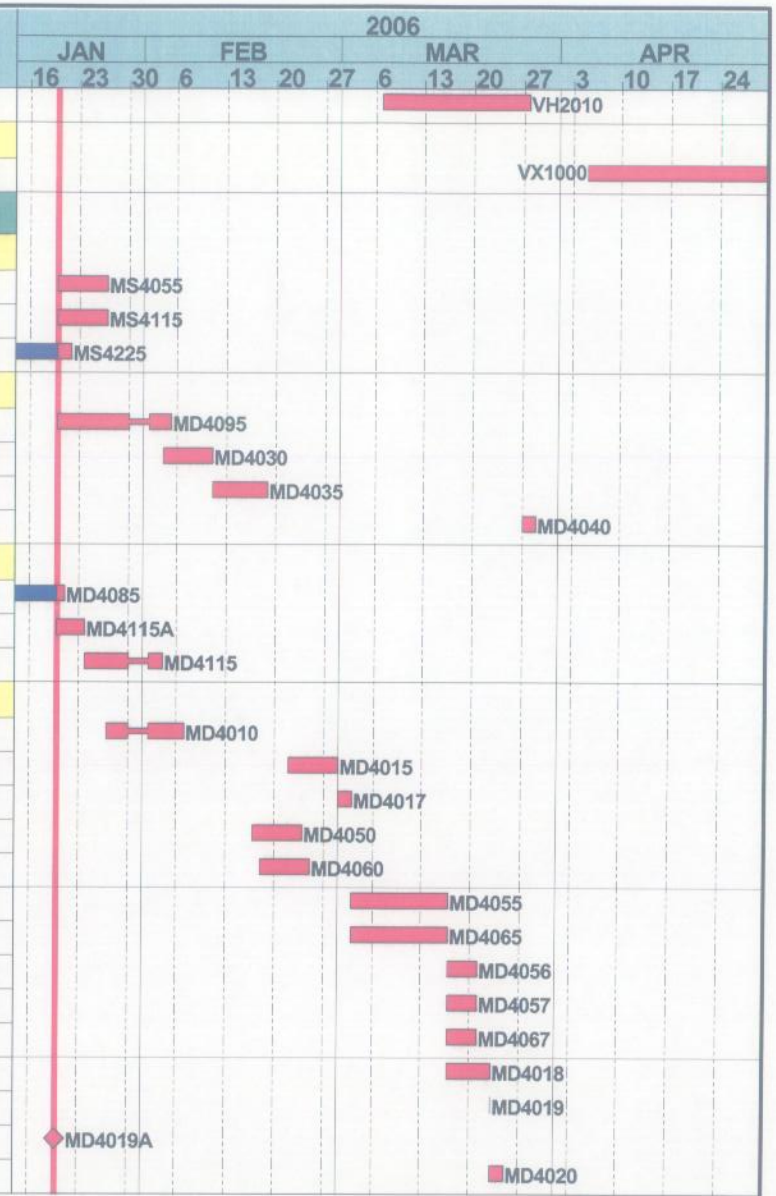
| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| VH2010 | Fire Main - Valves & Connections | 18 | 07MAR06 | 27MAR06 | 03JAN06 | 23JAN06 |
| **Landscape Works** | | | | | | |
| VX1000 | Landscaping - Earthworks & Formation | 24 | 05APR06 | 03MAY06 | 22NOV05 | 19DEC05 |
| **Viaduct - Main Line - Piers P16 to P18** | | | | | | |
| **Substructure** | | | | | | |
| MS4055 | P16/L - Install Bearings | 6 | 20JAN06 | 26JAN06 | 12SEP05 | 17SEP05 |
| MS4115 | P16/R - Install Bearings | 6 | 20JAN06 | 26JAN06 | 12SEP05 | 17SEP05 |
| MS4225 | P17/L & P17/R - Cure & Strike Form/Falsework | 24 | 21DEC05A | 21JAN06 | 21DEC05A | 20JUN05 |
| **Main Line - Segmental Deck Construction (Crane)** | | | | | | |
| MD4095 | P18 Slip D - 22 Segments Type B | 11 | 20JAN06 | 04FEB06 | 30AUG05 | 10SEP05 |
| MD4030 | P17 Slip C - 1st. Pair - 2 Segments Type B | 6 | 04FEB06 | 10FEB06 | 15OCT05 | 21OCT05 |
| MD4035 | P17 Slip C - 16 Segments Type B | 7 | 11FEB06 | 18FEB06 | 22OCT05 | 29OCT05 |
| MD4040 | C6 Slip C - 3 Segments Type B | 2 | 27MAR06 | 28MAR06 | 28NOV05 | 29NOV05 |
| **Main Line - Segmental Deck Const'n (Lift Frames)** | | | | | | |
| MD4085 | P18/R - 20 Segments Type A | 10 | 06JAN06A | 20JAN06 | 06JAN06A | 29OCT05 |
| MD4115A | P18 Slip C - 2nd-4th. Pairs -6 Segments Type B | 3 | 20JAN06 | 23JAN06 | 03OCT05 | 05OCT05 |
| MD4115 | P18 Slip C - 5th-14th Pairs - 20 Segments Type B | 7 | 24JAN06 | 03FEB06 | 06OCT05 | 14OCT05 |
| **Main Line - Segmental Deck Construction (Gantry)** | | | | | | |
| MD4010 | P16 - 1st. Pair - 2 Segments Type A | 6 | 27JAN06 | 06FEB06 | 20SEP05 | 26SEP05 |
| MD4015 | P16 - 18 Segments Type A | 6 | 22FEB06 | 28FEB06 | 27SEP05 | 04OCT05 |
| MD4017 | P15/L&R to P16/L&R - Insitu Stitches | 2 | 01MAR06 | 02MAR06 | 05OCT05 | 06OCT05 |
| MD4050 | P17/L - 1st. Pair - 2 Segments Type A | 6 | 17FEB06 | 23FEB06 | 22SEP05 | 28SEP05 |
| MD4060 | P17/R - 1st. Pair - 2 Segments Type A | 6 | 18FEB06 | 24FEB06 | 23SEP05 | 29SEP05 |
| MD4055 | P17/L - 16 Segments Type A | 12 | 03MAR06 | 16MAR06 | 07OCT05 | 21OCT05 |
| MD4065 | P17/R - 22 Segments Type A | 12 | 03MAR06 | 16MAR06 | 14OCT05 | 27OCT05 |
| MD4056 | P17/L&R to P18/L&R - Insitu Stitches | 3 | 17MAR06 | 20MAR06 | 31OCT05 | 02NOV05 |
| MD4057 | P16/L to P17/L - Insitu Stitch | 3 | 17MAR06 | 20MAR06 | 09NOV05 | 11NOV05 |
| MD4067 | P16/R to P17/R - Insitu Stitch | 3 | 17MAR06 | 20MAR06 | 09NOV05 | 11NOV05 |
| MD4018 | Delivery of Segments at P17 Slip C | 5 | 17MAR06 | 22MAR06 | 28OCT05 | 02NOV05 |
| MD4019 | Gantry Modifications | 0 | 23MAR06 | 22MAR06 | 03NOV05 | 02NOV05 |
| MD4019A | CLP SHUT DOWN POWER - O/HEAD LINES NORTH & | 0 | 20JAN06* | | 03NOV05 | |
| MD4020 | Launch Gantry to P16/P17/P18 UNDER CLP O/H LINES | 2 | 23MAR06 | 24MAR06 | 03NOV05 | 04NOV05 |



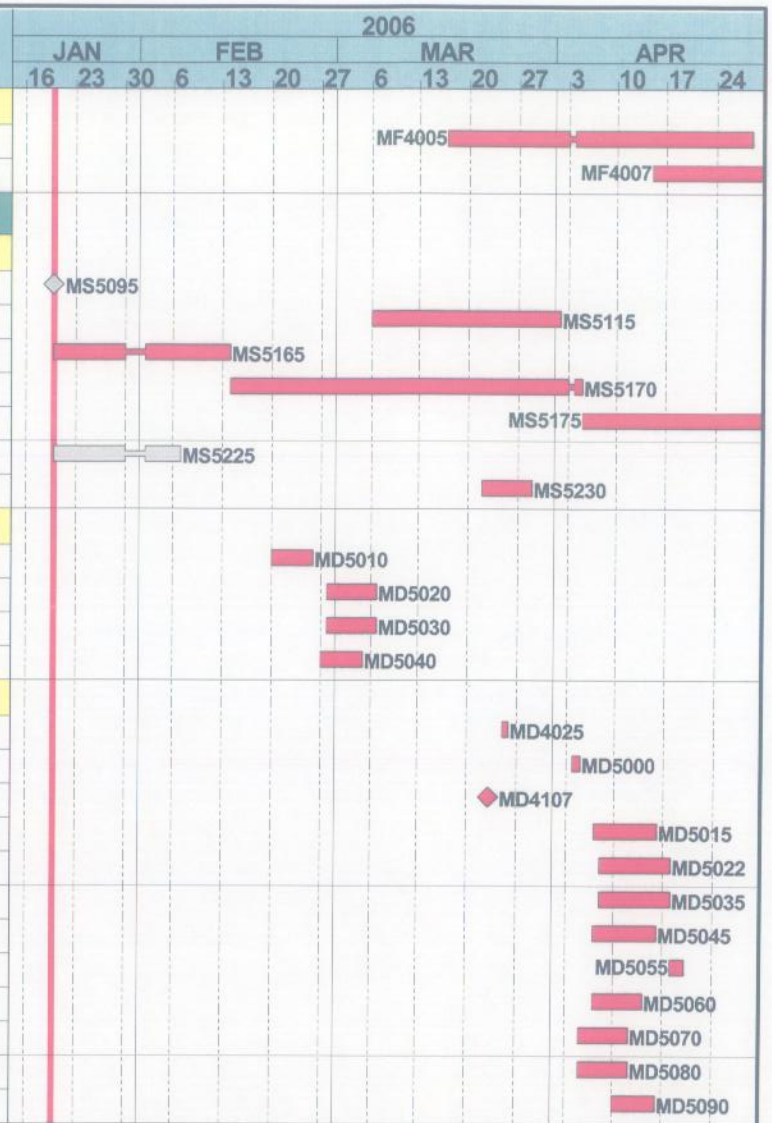

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 9 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| **Superstructure Finishing Works Required for TCSS** | | | | | | |
| MF4005 | P16 to P18 - Insitu Slab to Under Median Barrier | 36 | 17MAR06 | 28APR06 | 22OCT05 | 02DEC05 |
| MF4007 | P16 to P18 - Median Barrier (incl earthing) | 36 | 15APR06 | 27MAY06 | 19NOV05 | 31DEC05 |
| **Viaduct - Main Line - Piers 19 to Abutment M** | | | | | | |
| **Substructure** | | | | | | |
| MS5095 | P20 - 3rd. Site Access from ENT Contractor | 0 | 20JAN06* | | 05OCT08 | |
| MS5115 | P20 - Pier Head - Cure & Strip Falsework | 24 | 06MAR06 | 01APR06 | 09DEC05 | 07JAN06 |
| MS5165 | P21 - Pier Hammer Head | 18 | 20JAN06 | 13FEB06 | 08OCT05 | 29OCT05 |
| MS5170 | P21 - Pier Insitu Deck Segment | 42 | 14FEB06 | 04APR06 | 31OCT05 | 17DEC05 |
| MS5175 | P21 - Pier Head - Cure & Strip Falsework | 30 | 05APR06 | 10MAY06 | 19DEC05 | 24JAN06 |
| MS5225 | Abutment M - Slope Reinstatement | 12 | 20JAN06 | 06FEB06 | 20FEB06 | 04MAR06 |
| MS5230 | Abutment M - Install Bearings | 6 | 22MAR06 | 28MAR06 | 06MAR06 | 11MAR06 |
| **Main Line - Segmental Deck Construction (Crane)** | | | | | | |
| MD5010 | P19 Slip C - 1st. Pair - 2 Segments Type B | 6 | 20FEB06 | 25FEB06 | 03JAN06 | 09JAN06 |
| MD5020 | P19/L - 1st. Pair - 2 Segments Type A | 6 | 28FEB06 | 06MAR06 | 06JAN06 | 12JAN06 |
| MD5030 | P19/R - 1st. Pair - 2 Segments Type A | 6 | 28FEB06 | 06MAR06 | 06JAN06 | 12JAN06 |
| MD5040 | P19 Slip D - 1st. Pair - 2 Segments Type B | 6 | 27FEB06 | 04MAR06 | 06JAN06 | 12JAN06 |
| **Main Line - Segmental Deck Construction (Gantry)** | | | | | | |
| MD4025 | Launch Gantry to P17/P18/P19 UNDER CLP O/H LINES | 1 | 25MAR06 | 25MAR06 | 14NOV05 | 14NOV05 |
| MD5000 | Launch Gantry to P18/P19/P20 UNDER CLP O/H LINES | 1 | 04APR06 | 04APR06 | 09JAN06 | 09JAN06 |
| MD4107 | CLP RESUME POWER - O/HEAD LINES NORTH & | 0 | | 22MAR06 | | 09JAN06* |
| MD5015 | P19 Slip C - 18 Segments Type B | 8 | 07APR06 | 15APR06 | 12JAN06 | 20JAN06 |
| MD5022 | P19/L - 16 Segments Type A | 8 | 08APR06 | 17APR06 | 13JAN06 | 21JAN06 |
| MD5035 | P19/R - 18 Segments Type A | 8 | 08APR06 | 17APR06 | 13JAN06 | 21JAN06 |
| MD5045 | P19 Slip D - 14 Segments Type B | 8 | 07APR06 | 15APR06 | 13JAN06 | 21JAN06 |
| MD5055 | P19/L&R to P18/L&R - Insitu Stitches | 2 | 18APR06 | 19APR06 | 23JAN06 | 24JAN06 |
| MD5060 | P20 Slip D - 1st. Pair - 2 Segments Type B | 6 | 07APR06 | 13APR06 | 21JAN06 | 27JAN06 |
| MD5070 | P20/R - 1st. Pair - 2 Segments Type A | 6 | 05APR06 | 11APR06 | 10JAN06 | 16JAN06 |
| MD5080 | P20/L - 1st. Pair - 2 Segments Type A | 6 | 05APR06 | 11APR06 | 20JAN06 | 26JAN06 |
| MD5090 | P20 Slip C - 1st. Pair - 2 Segments Type A | 6 | 10APR06 | 15APR06 | 23JAN06 | 28JAN06 |



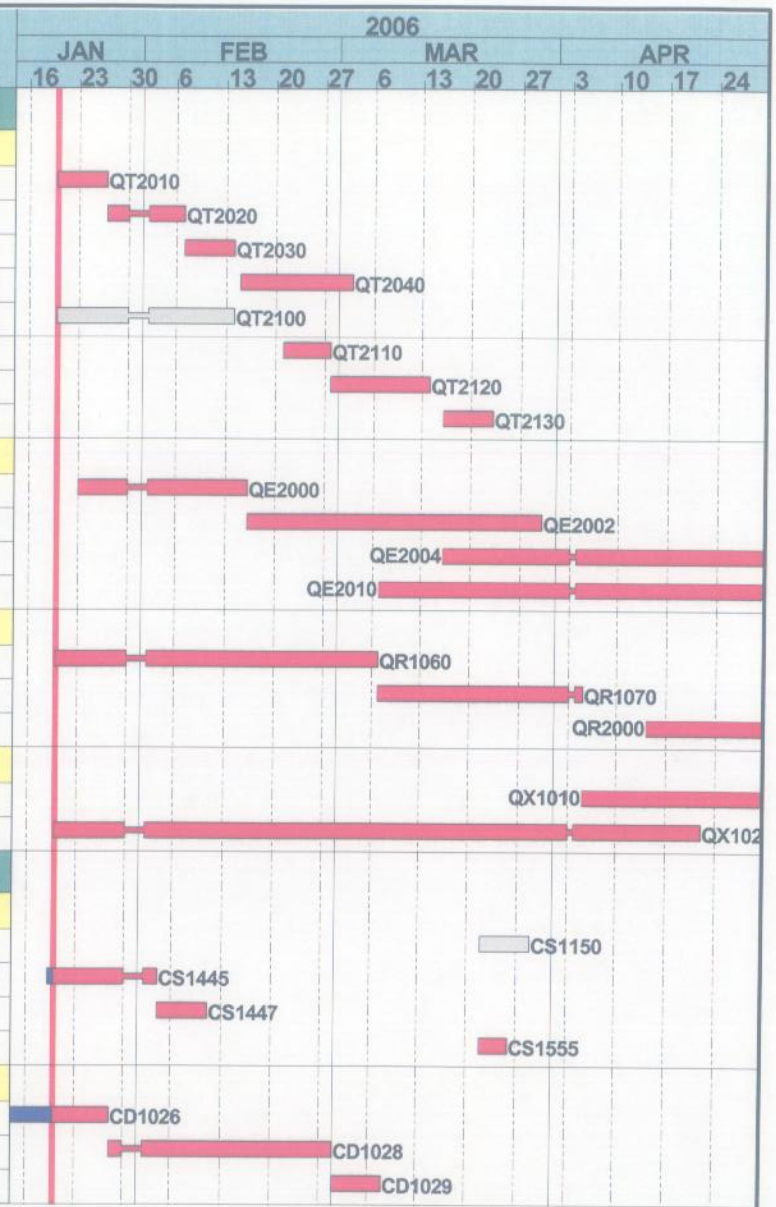

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 10 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| **At Grade Works - Butterfly Valley** | | | | | | |
| **Temporary Traffic Management Schemes** | | | | | | |
| QT2010 | TTMS MainLine Deck@ CC Rd E/B - CRE Endorsement | 6 | 20JAN06 | 26JAN06 | 27JUL05 | 02AUG05 |
| QT2020 | TTMS MainLine Deck@ CC Rd E/B - Roadworks Advice | 6 | 27JAN06 | 06FEB06 | 03AUG05 | 09AUG05 |
| QT2030 | TTMS MainLine Deck@ CC Rd E/B - Site Preparation | 6 | 07FEB06 | 13FEB06 | 10AUG05 | 16AUG05 |
| QT2040 | TTMS MainLine Deck@ CC Rd E/B - Implementation | 14* | 15FEB06 | 02MAR06 | 17AUG05 | 06OCT05 |
| QT2100 | TTMS Slip RdD Deck@ CC Rd E/B-Prepare for Review | 18 | 20JAN06 | 13FEB06 | 12SEP08 | 04OCT08 |
| QT2110 | TTMS Slip Rd D Deck@ CC Rd E/B - CRE Endorsement | 6 | 21FEB06 | 27FEB06 | 17AUG05 | 23AUG05 |
| QT2120 | TTMS Slip RdD Deck@ CC Rd E/B - Roadworks Advice | 12 | 28FEB06 | 13MAR06 | 24AUG05 | 06SEP05 |
| QT2130 | TTMS Slip RdD Deck@ CC Rd E/B - Site Preparation | 6 | 16MAR06 | 22MAR06 | 09SEP05 | 15SEP05 |
| **Earthworks & Slope Works - 11NW-A/FR54 & F55** | | | | | | |
| QE2000 | Slope 11NW-A/FR54 & FR55 - Remove Temp. Platform | 18 | 23JAN06 | 15FEB06 | 21JUN05 | 12JUL05 |
| QE2002 | Slope 11NW-A/FR54 & FR55 - Retaining Wall -Bases | 36 | 16FEB06 | 29MAR06 | 13JUL05 | 23AUG05 |
| QE2004 | Slope 11NW-A/FR54 & FR55 - Retaining Wall -Walls | 48 | 16MAR06 | 12MAY06 | 10AUG05 | 06OCT05 |
| QE2010 | Slope 11NW-A/FR54 & FR55 - Install Temp Works | 48 | 07MAR06 | 03MAY06 | 20JUL05 | 13SEP05 |
| **Utilities & Roadworks** | | | | | | |
| QR1060 | WSD Access Road - Permanent C/Way P18 to P19 | 36 | 20JAN06 | 06MAR06 | 10OCT05 | 21NOV05 |
| QR1070 | WSD Access Road - Make Good Existing C/Way | 24 | 07MAR06 | 04APR06 | 22NOV05 | 19DEC05 |
| QR2000 | WSD Access Road - New CLP 11Kv Cable Laying | 36 | 14APR06 | 26MAY06 | 29JUL05 | 08SEP05 |
| **Landscape Works** | | | | | | |
| QX1010 | Landscaping - Footpath Paving | 24 | 05APR06 | 03MAY06 | 20DEC05 | 18JAN06 |
| QX1020 | Landscaping - Soiling & Planting on Slope CCR-S6 | 75 | 20JAN06* | 21APR06 | 21OCT05 | 18JAN06 |
| **Viaduct - Slip Road C** | | | | | | |
| **Substructure** | | | | | | |
| CS1150 | Abutment C - Install Bearings | 6 | 22MAR06 | 28MAR06 | 27SEP08 | 04OCT08 |
| CS1445 | C5/L - C5/R Portal - Cure & Strike Form/Falsewk | 14 | 19JAN06A | 03FEB06 | 19JAN06A | 21JUL05 |
| CS1447 | C5/L - C5/R Portal - Install Bearings | 6 | 04FEB06 | 10FEB06 | 22JUL05 | 28JUL05 |
| CS1555 | C6/R & C6/L - Install Bearings on Portal Frame | 4 | 22MAR06 | 25MAR06 | 12SEP05 | 15SEP05 |
| **Slip Road C - Insitu Deck Construction** | | | | | | |
| CD1026 | Slip Rd. C - Deck Span Abut.C to C2 - 1st. Pour | 24 | 07JAN06A | 27JAN06 | 07JAN06A | 09SEP05 |
| CD1028 | Slip Rd. C - Deck Span Abut.C to C2 - 2nd. Pour | 24 | 28JAN06 | 28FEB06 | 10SEP05 | 10OCT05 |
| CD1029 | Slip Rd. C - Deck Span Abut.C to C3 - Stressing | 6 | 01MAR06 | 07MAR06 | 12OCT05 | 18OCT05 |




Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06



P3 File : LU28

Sheet 11 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

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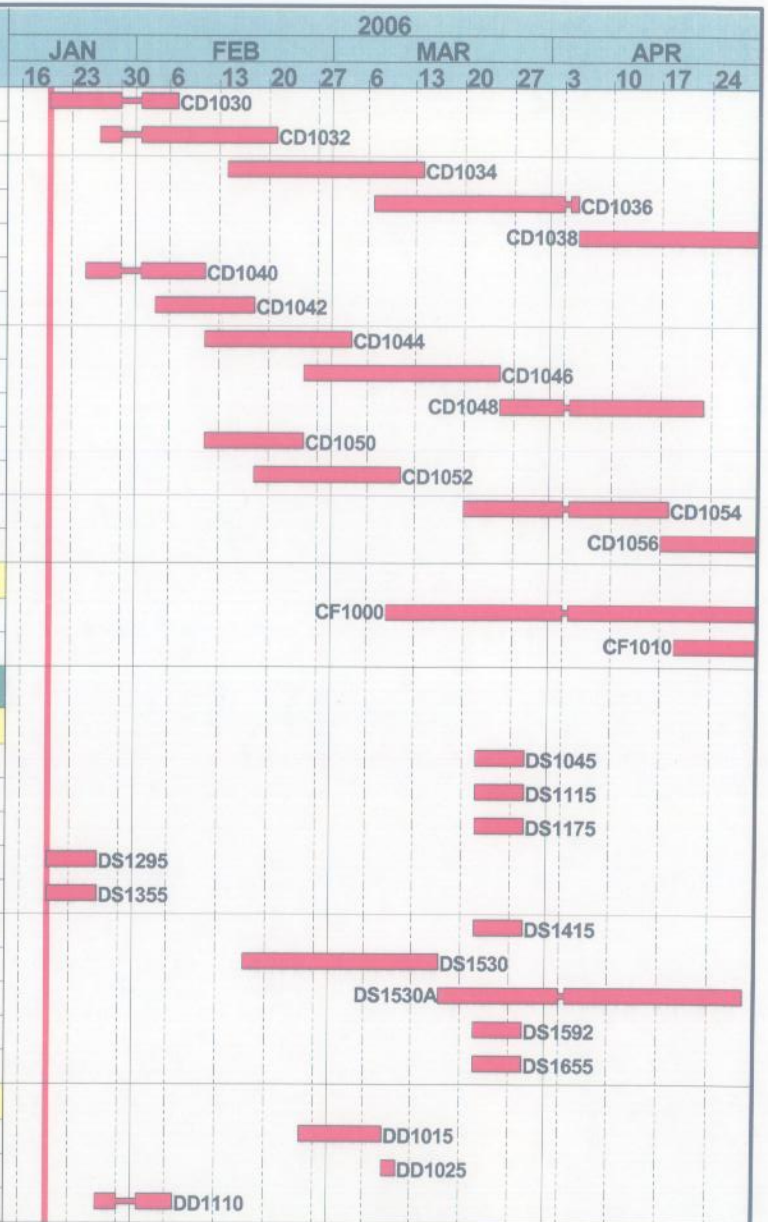
| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| CD1030 | Slip Rd. C - Deck Span C3 to C4 - Ground Prep. | 12 | 20JAN06 | 06FEB06 | 23JUL05 | 05AUG05 |
| CD1032 | Slip Rd. C - Deck Span C3 to C4 - Falsework | 18 | 27JAN06 | 20FEB06 | 30JUL05 | 19AUG05 |
| CD1034 | Slip Rd. C - Deck Span C3 to C4 - Soffit | 24 | 14FEB06 | 13MAR06 | 13AUG05 | 09SEP05 |
| CD1036 | Slip Rd. C - Deck Span C3 to C4 - 1st. Pour | 24 | 07MAR06 | 04APR06 | 03SEP05 | 03OCT05 |
| CD1038 | Slip Rd. C - Deck Span C3 to C4 - 2nd. Pour | 24 | 05APR06 | 03MAY06 | 04OCT05 | 01NOV05 |
| CD1040 | Slip Rd. C - Deck Span C4 to C5 - Ground Prep. | 12 | 25JAN06 | 10FEB06 | 15JUL05 | 28JUL05 |
| CD1042 | Slip Rd. C - Deck Span C4 to C5 - Falsework | 12 | 04FEB06 | 17FEB06 | 22JUL05 | 04AUG05 |
| CD1044 | Slip Rd. C - Deck Span C4 to C5 - Soffit | 18 | 11FEB06 | 03MAR06 | 29JUL05 | 18AUG05 |
| CD1046 | Slip Rd. C - Deck Span C4 to C5 - 1st. Pour | 24 | 25FEB06 | 24MAR06 | 12AUG05 | 08SEP05 |
| CD1048 | Slip Rd. C - Deck Span C4 to C5 - 2nd. Pour | 24 | 25MAR06 | 22APR06 | 09SEP05 | 08OCT05 |
| CD1050 | Slip Rd. C - Deck Span C5 to C6 - Ground Prep. | 12 | 11FEB06 | 24FEB06 | 12AUG05 | 25AUG05 |
| CD1052 | Slip Rd. C - Deck Span C5 to C6 - Falsework | 18 | 18FEB06 | 10MAR06 | 19AUG05 | 08SEP05 |
| CD1054 | Slip Rd. C - Deck Span C5 to C6 - Soffit | 24 | 20MAR06 | 17APR06 | 09SEP05 | 08OCT05 |
| CD1056 | Slip Rd. C - Deck Span C5 to C6 - 1st. Pour | 24 | 17APR06 | 15MAY06 | 03OCT05 | 31OCT05 |
| **Superstructure Finishing Works Required for TCSS** | | | | | | |
| CF1000 | Slip Rd. C - Parapets - Abut. C to C2 + earthing | 48 | 09MAR06 | 05MAY06 | 29OCT05 | 23DEC05 |
| CF1010 | Slip Rd. C - Parapets C2 to C4 (incl earthing) | 36 | 19APR06 | 31MAY06 | 19OCT05 | 29NOV05 |
| **Viaduct - Slip Road D** | | | | | | |
| **Substructure** | | | | | | |
| DS1045 | Abutment D - Install Bearings | 6 | 22MAR06 | 28MAR06 | 03NOV05 | 09NOV05 |
| DS1115 | D1 - Install Bearings | 6 | 22MAR06 | 28MAR06 | 13OCT05 | 19OCT05 |
| DS1175 | D2 - Install Bearings | 6 | 22MAR06 | 28MAR06 | 30SEP05 | 07OCT05 |
| DS1295 | D4 - Install Bearings | 6 | 20JAN06 | 26JAN06 | 15AUG05 | 20AUG05 |
| DS1355 | D5 - Install Bearings | 6 | 20JAN06 | 26JAN06 | 08AUG05 | 13AUG05 |
| DS1415 | D6 - Install Bearings | 6 | 22MAR06* | 28MAR06 | 18OCT05 | 24OCT05 |
| DS1530 | D8 - Pier Head | 24 | 17FEB06 | 16MAR06 | 19AUG05 | 15SEP05 |
| DS1530A | D8 - Pier Head - Insitu Segment | 36 | 17MAR06 | 28APR06 | 16SEP05 | 31OCT05 |
| DS1592 | D9 - Install Bearings | 6 | 22MAR06 | 28MAR06 | 09SEP05 | 15SEP05 |
| DS1655 | D10 - Install Bearings | 6 | 22MAR06 | 28MAR06 | 02SEP05 | 08SEP05 |
| **Slip Road D - Segmental Deck Const'n (Crane)** | | | | | | |
| DD1015 | D10 - 22 seg Type B | 10 | 25FEB06 | 08MAR06 | 12SEP05 | 23SEP05 |
| DD1025 | D10 to P18 - Insitu Stitch | 2 | 09MAR06 | 10MAR06 | 08DEC05 | 09DEC05 |
| DD1110 | D5 - Pierhead Segment - 1 Segment Type B | 6 | 27JAN06* | 06FEB06 | 15AUG05 | 20AUG05 |



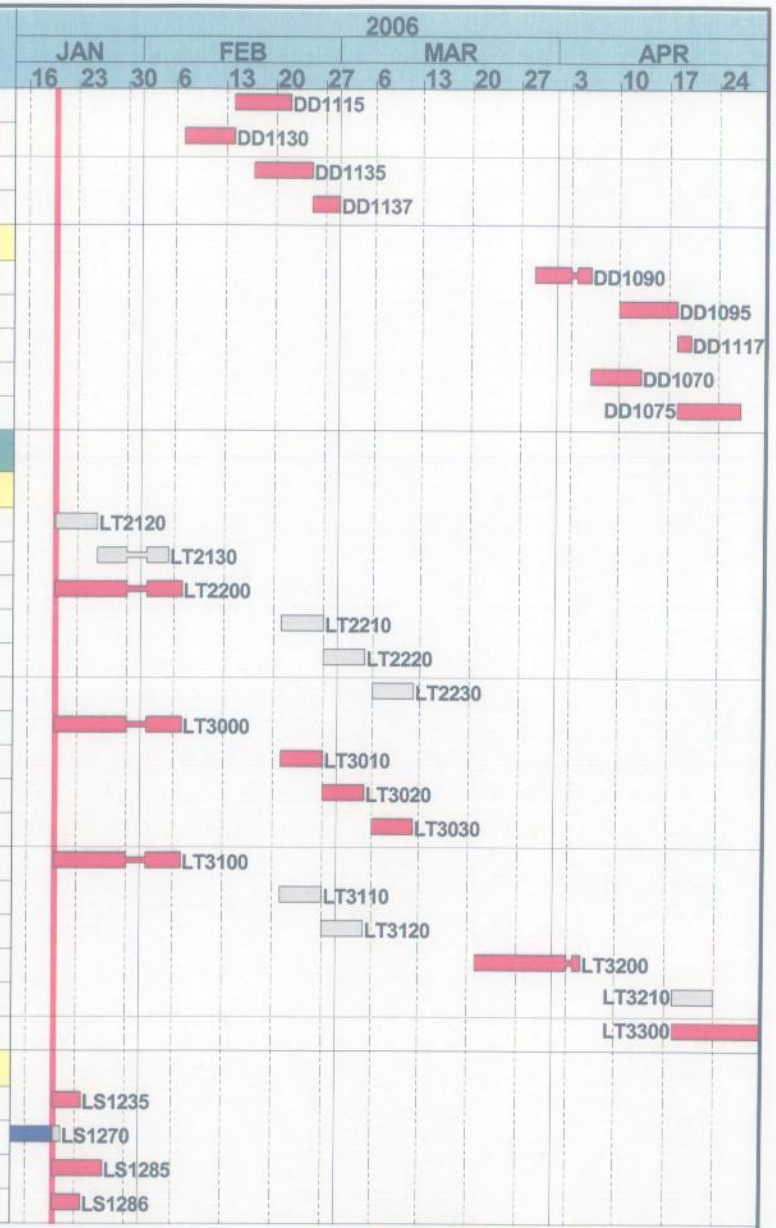

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 12 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| DD1115 | D5 - 28 seg Type B | 7 | 14FEB06 | 21FEB06 | 25OCT05 | 01NOV05 |
| DD1130 | D4 - Pierhead Segment - 1 Segment Type B | 6 | 07FEB06 | 13FEB06 | 22AUG05 | 27AUG05 |
| DD1135 | D4 - 28 Segments Type B | 7 | 17FEB06 | 24FEB06 | 01SEP05 | 08SEP05 |
| DD1137 | D4 to D5 - Insitu Stitch | 3 | 25FEB06 | 28FEB06 | 02NOV05 | 04NOV05 |
| **Slip Road D - Segmrntal Deck Const'n (L/Frames)** | | | | | | |
| DD1090 | D6 - Pierhead Segments - 2 Segments Type B | 6 | 29MAR06 | 05APR06 | 25OCT05 | 31OCT05 |
| DD1095 | D6 - 16 seg Type B | 7 | 10APR06 | 17APR06 | 04NOV05 | 11NOV05 |
| DD1117 | D5-D6 Insitu Stitch | 2 | 18APR06 | 19APR06 | 01DEC05 | 02DEC05 |
| DD1070 | D7 - 1st. pair - 2 seg Type B | 6 | 06APR06 | 12APR06 | 05NOV05 | 11NOV05 |
| DD1075 | D7 - 16 seg Type B | 8 | 18APR06 | 26APR06 | 12NOV05 | 21NOV05 |
| **Lai Wan Road Overpass** | | | | | | |
| **Temporary Traffic Management Schemes** | | | | | | |
| LT2120 | TTMS LW Rd (for W/B Deck) - Roadworks Advice | 6 | 20JAN06 | 25JAN06 | 21SEP08 | 26SEP08 |
| LT2130 | TTMS LW Rd (for W/B Deck) - Site Preparation | 6 | 26JAN06 | 04FEB06 | 27SEP08 | 04OCT08 |
| LT2200 | TTMS LW Rd (for E/B Deck ) - Prepare for Review | 12 | 20JAN06 | 06FEB06 | 23APR05 | 07MAY05 |
| LT2210 | TTMS LW Rd (for E/B Deck) - CRE Endorsement | 6 | 21FEB06 | 26FEB06 | 15SEP08 | 20SEP08 |
| LT2220 | TTMS LW Rd (for E/B Deck) - Roadworks Advice | 6 | 27FEB06 | 04MAR06 | 21SEP08 | 26SEP08 |
| LT2230 | TTMS LW Rd (for E/B Deck) - Site Preparation | 6 | 06MAR06 | 11MAR06 | 27SEP08 | 04OCT08 |
| LT3000 | TTMS CC Rd (on W/B Deck) - Prepare for Review | 12 | 20JAN06 | 06FEB06 | 23APR05 | 07MAY05 |
| LT3010 | TTMS CC Rd (on W/B Deck) - CRE Endorsement | 6 | 21FEB06 | 26FEB06 | 24OCT05 | 29OCT05 |
| LT3020 | TTMS CC Rd (on W/B Deck) - Roadworks Advice | 6 | 27FEB06 | 04MAR06 | 30OCT05 | 04NOV05 |
| LT3030 | TTMS CC Rd (on W/B Deck) - Site Preparation | 6 | 06MAR06 | 11MAR06 | 05NOV05 | 11NOV05 |
| LT3100 | TTMS CC Rd (on E/B Deck) - Prepare for Review | 12 | 20JAN06 | 06FEB06 | 23APR05 | 07MAY05 |
| LT3110 | TTMS CC Rd (on E/B Deck) - CRE Endorsement | 6 | 21FEB06 | 26FEB06 | 16JUL06 | 21JUL06 |
| LT3120 | TTMS CC Rd (on E/B Deck) - Roadworks Advice | 6 | 27FEB06 | 04MAR06 | 22JUL06 | 27JUL06 |
| LT3200 | TTMS CC Rd (on Both Decks) - Prepare for Review | 12 | 21MAR06 | 04APR06 | 06DEC05 | 19DEC05 |
| LT3210 | TTMS CC Rd (on Both Decks) - CRE Endorsement | 6 | 18APR06 | 23APR06 | 04AUG06 | 09AUG06 |
| LT3300 | TTMS CC Rd (on Both Decks) - Prepare for Review | 12 | 18APR06 | 02MAY06 | 11JAN06 | 24JAN06 |
| **West Bound - Substructure** | | | | | | |
| LS1235 | D13 - Install Bearings | 3 | 20JAN06 | 23JAN06 | 10SEP05 | 13SEP05 |
| LS1270 | D14 - Backfill & Remove Temporary Works | 3 | 14DEC05A | 20JAN06 | 14DEC05A | 04OCT08 |
| LS1285 | D14 - Install Bearings | 6 | 20JAN06 | 26JAN06 | 07SEP05 | 13SEP05 |
| LS1286 | Abutment DA2 - Remove Existig Rockfall Fence | 3 | 20JAN06 | 23JAN06 | 16MAY05 | 18MAY05 |




Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 13 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| LS1287 | Abutment DA2 - Remove Existing Footpath | 6 | 24JAN06 | 02FEB06 | 19MAY05 | 25MAY05 |
| LS1288 | Abutment DA2 - Re-instate Rockfall Fence | 3 | 03FEB06 | 06FEB06 | 26MAY05 | 28MAY05 |
| LS1290 | Abutment DA2 - Utility Trial Trenches | 3 | 03FEB06 | 06FEB06 | 26MAY05 | 28MAY05 |
| LS1310 | Abutment DA2 - Excavation in Rock for Footing | 24 | 07FEB06 | 06MAR06 | 30MAY05 | 27JUN05 |
| LS1320 | Abutment DA2 - Mass Concrete Fill Under Footing | 12 | 07MAR06 | 20MAR06 | 28JUN05 | 12JUL05 |
| LS1330 | Abutment DA2 - Footing | 18 | 21MAR06 | 11APR06 | 13JUL05 | 02AUG05 |
| LS1340 | Abutment DA2 - Bearing Shelf & Walls | 24 | 12APR06 | 10MAY06 | 03AUG05 | 30AUG05 |
| **East Bound - Substructure** | | | | | | |
| LS2205 | C13 - Install Bearings | 6 | 20JAN06 | 26JAN06 | 10AUG05 | 16AUG05 |
| LS2220 | C14 - Excavate for Footing | 12 | 23FEB06 | 08MAR06 | 06JUL05 | 19JUL05 |
| LS2230 | C14 - Footing & Pier Kicker | 12 | 09MAR06 | 22MAR06 | 20JUL05 | 02AUG05 |
| LS2240 | C14 - Backfill & Remove Temporary Works | 4 | 23MAR06 | 27MAR06 | 03AUG05 | 06AUG05 |
| LS2250 | C14 - Pier (incl. Pier Head) | 18 | 28MAR06 | 18APR06 | 08AUG05 | 27AUG05 |
| LS2255 | C14 - Install Bearings | 2 | 19APR06 | 20APR06 | 29AUG05 | 30AUG05 |
| LS2260 | Abutment CA2 - Excavation in Rock for Footing | 12 | 23FEB06 | 08MAR06 | 16JUL05 | 29JUL05 |
| LS2270 | Abutment CA2 - Footing | 12 | 09MAR06 | 22MAR06 | 30JUL05 | 12AUG05 |
| LS2280 | Abutment CA2 - Bearing Shelf & Walls | 24 | 23MAR06 | 20APR06 | 13AUG05 | 09SEP05 |
| **West Bound - Insitu Deck** | | | | | | |
| LD1019 | Lai Wan O/pass W/B - Span St. 2 - Stressing | 6 | 20JAN06 | 26JAN06 | 05NOV05 | 11NOV05 |
| LD1040 | Lai Wan O/pass W/B - Demolish F/p for Stage 3 | 24 | 20JAN06 | 20FEB06 | 03AUG05 | 30AUG05 |
| **East Bound - Insitu Deck** | | | | | | |
| LD2052 | Lai Wan O/Pass E/B - Span St.3 - Falsework | 18 | 30NOV05A | 02FEB06 | 30NOV05A | 23AUG05 |
| LD2054 | Lai Wan O/Pass E/B - Span St.3 - Soffit | 24 | 07APR06 | 05MAY06 | 17AUG05 | 13SEP05 |
| **At Grade Works - Ching Cheung Road at LCK Park** | | | | | | |
| **Temporary Traffic Management Schemes** | | | | | | |
| NT2050 | 2nd. TTMS CC Rd (E/B C/Way) - Prepare for Review | 12 | 20JAN06 | 06FEB06 | 23APR05 | 07MAY05 |
| NT2060 | 2nd. TTMS CC Rd (E/B C/Way) - CRE Endorsement | 6 | 21FEB06 | 26FEB06 | 19OCT06 | 24OCT06 |
| NT2070 | 2nd. TTMS CC Rd (E/B C/Way) - Roadworks Advice | 6 | 27FEB06 | 04MAR06 | 25OCT06 | 30OCT06 |
| NT2080 | 2nd. TTMS CC Rd (E/B C/Way) - Site Preparation | 6 | 06MAR06 | 11MAR06 | 31OCT06 | 06NOV06 |
| NT2100 | 3rd. TTMS CC Rd (E/B C/Way) - Prepare for Review | 12 | 21MAR06 | 04APR06 | 06DEC05 | 19DEC05 |
| NT2110 | 3rd. TTMS CC Rd (E/B C/Way) - CRE Endorsement | 6 | 18APR06 | 23APR06 | 20JUL06 | 25JUL06 |
| **Retaining Wall CCR-R1 West Bound** | | | | | | |
| NW1120 | W/B Ret. Wall CCR-R1B - Excavate | 15 | 07NOV05A | 23JAN06 | 07NOV05A | 18SEP08 |

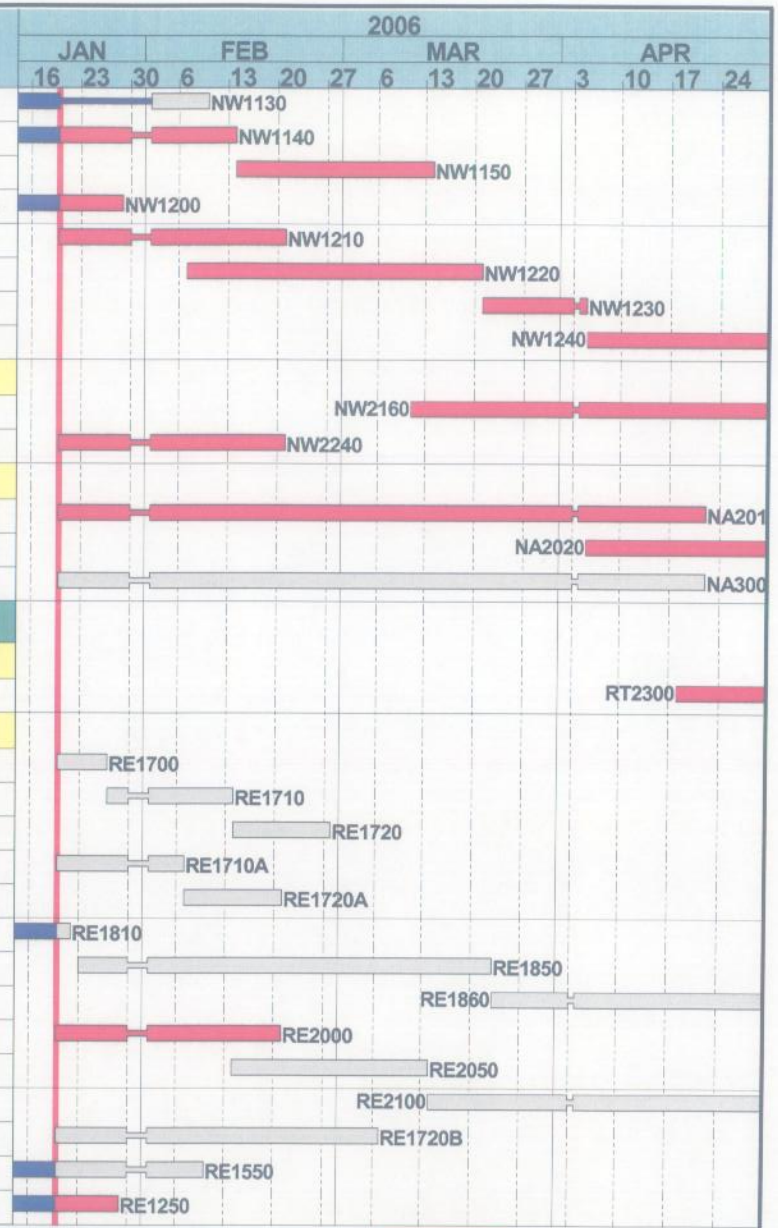

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 14 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| NW1130 | W/B Ret. Wall CCR-R1B - Bases | 24 | 10NOV05A | 09FEB06 | 10NOV05A | 04OCT08 |
| NW1140 | W/B Ret. Wall CCR-R1B - Walls | 36 | 15NOV05A | 13FEB06 | 15NOV05A | 27JUN05 |
| NW1150 | W/B Ret. Wall CCR-R1B - Backfill Behind Wall | 24 | 14FEB06 | 13MAR06 | 28JUN05 | 26JUL05 |
| NW1200 | W/B Ret. Wall CCR-R1A West - Excavate | 15 | 19DEC05A | 28JAN06 | 19DEC05A | 24MAY05 |
| NW1210 | W/B Ret. Wall CCR-R1A West - Bases | 24 | 20JAN06 | 20FEB06 | 16MAY05 | 13JUN05 |
| NW1220 | W/B Ret. Wall CCR-R1A West - Walls | 36 | 07FEB06 | 20MAR06 | 30MAY05 | 12JUL05 |
| NW1230 | W/B Ret. Wall CCR-R1A West - B/fill Behind Wall | 12 | 21MAR06 | 04APR06 | 13JUL05 | 26JUL05 |
| NW1240 | W/B Ret. Wall CCR-R1A West - Parapet on Wall | 36 | 05APR06 | 17MAY06 | 27JUL05 | 06SEP05 |
| **Retaining Wall CCR-R1 East Bound** | | | | | | |
| NW2160 | W/B Ret. Wall CCR-R1D -Parapets on Wall | 60 | 11MAR06 | 22MAY06 | 29SEP05 | 09DEC05 |
| NW2240 | W/B Ret. Wall CCR-R1E - Parapets on Wall | 24 | 20JAN06 | 20FEB06 | 12NOV05 | 09DEC05 |
| **Drainage Works** | | | | | | |
| NA2010 | C.C. Rd. W/B in New C/way - S/water Drainage E3 | 75 | 20JAN06 | 21APR06 | 26SEP05 | 23DEC05 |
| NA2020 | C.C. Rd. W/B in New C/way - S/water Drainage J2 | 75 | 05APR06 | 04JUL06 | 17SEP05 | 16DEC05 |
| NA3000 | C.C. Rd. E/B in New C/way - Stormwater Drainage | 75 | 20JAN06 | 21APR06 | 24JAN06 | 25APR06 |
| **At Grade Work - Ching Cheung Road - Main Section** | | | | | | |
| **Temporary Traffic Management Schemes** | | | | | | |
| RT2300 | 4th. TTMS CC Rd E/B C/Way - Prepare for Review | 12 | 18APR06 | 02MAY06 | 11JAN06 | 24JAN06 |
| **Earthworks & Slope Works - CCR-S1, S2 & S3** | | | | | | |
| RE1700 | Slope CCR-S1E - Finish Seed & Planting +62.3mPD | 6 | 20JAN06* | 26JAN06 | 09OCT06 | 14OCT06 |
| RE1710 | Slope CCR-S1E - Finish Seed & Planting +54.8mPD | 12 | 27JAN06 | 13FEB06 | 16OCT06 | 30OCT06 |
| RE1720 | Slope CCR-S1E - Finish Seed & Planting +47.3mPD | 12 | 14FEB06 | 27FEB06 | 31OCT06 | 13NOV06 |
| RE1710A | Slope CCR-S1C- Finish Seed & Planting +54.9mPD | 12 | 20JAN06 | 06FEB06 | 16OCT06 | 30OCT06 |
| RE1720A | Slope CCR-S1C - Finish Seed & Planting +47.3mPD | 12 | 07FEB06 | 20FEB06 | 31OCT06 | 13NOV06 |
| RE1810 | Slope CCR-S1E&C - Rock Stabilisation to +32.3mPD | 48 | 22AUG05A | 21JAN06 | 22AUG05A | 31JUL06 |
| RE1850 | Slope CCR-S1E&C - Drainage to Level +25.4mPD | 48 | 23JAN06 | 22MAR06 | 04AUG06 | 29SEP06 |
| RE1860 | Slope CCR-S1E&C- Finish Seed & Planting to +25.4 | 36 | 23MAR06 | 05MAY06 | 30SEP06 | 13NOV06 |
| RE2000 | Slope CCR-S2 -Excavate Rock to Formation | 24 | 20JAN06 | 20FEB06 | 29SEP05 | 28OCT05 |
| RE2050 | Slope CCR-S2 - Rock Stabilisation | 24 | 14FEB06 | 13MAR06 | 06MAY06 | 02JUN06 |
| RE2100 | Slope CCR-S2 - Drainage | 42 | 14MAR06 | 03MAY06 | 03JUN06 | 24JUL06 |
| RE1720B | Slope CCR-S1W - Seed & Planting to +39.95mPD | 36 | 20JAN06 | 06MAR06 | 30SEP06 | 13NOV06 |
| RE1550 | Slope CCR-S1W - Rock Stabilisation to 24.9mPD | 54 | 24OCT05A | 09FEB06 | 24OCT05A | 04OCT08 |
| RE1250 | Slope CCR-S1W - Bulk Excavate to Level +19.0mPD | 18 | 25NOV05A | 28JAN06 | 25NOV05A | 13JUN05 |



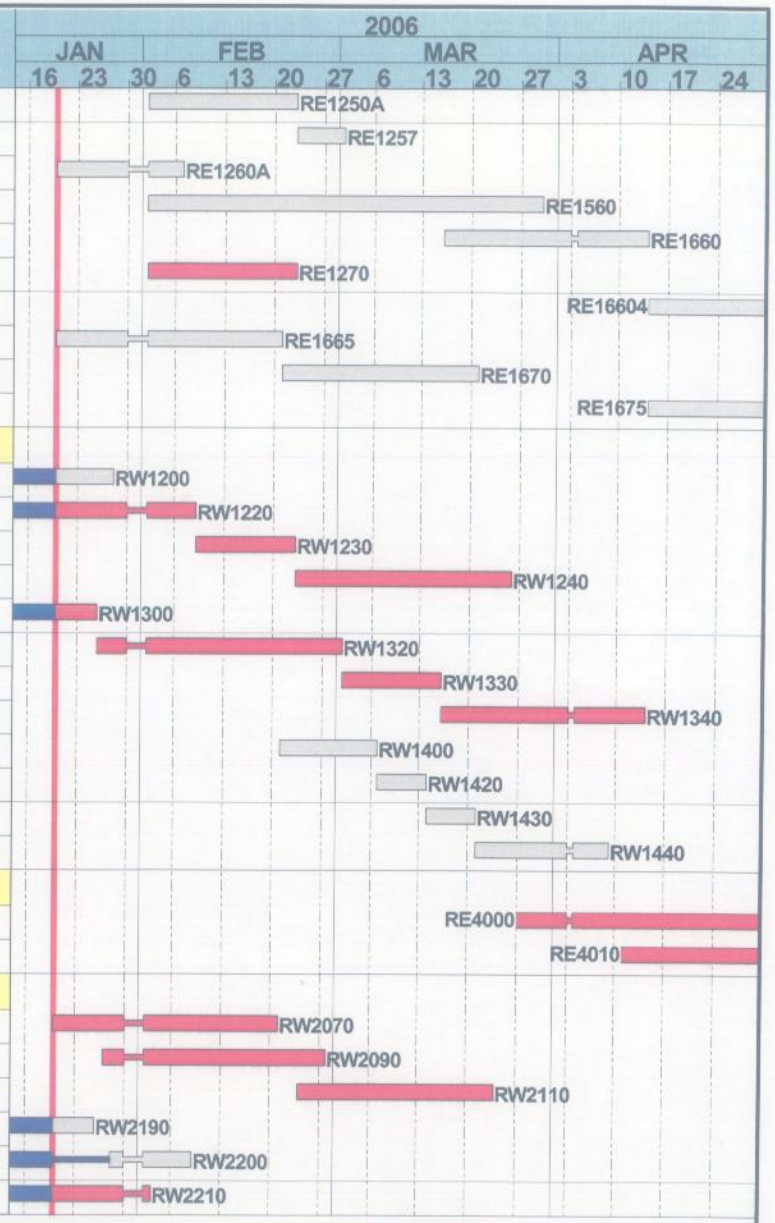

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 15 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| RE1250A | Slope CCR-S1W -Detailed Excavate to Level +19.0m | 18 | 02FEB06 | 22FEB06 | 11AUG06 | 31AUG06 |
| RE1257 | Slope CCR-S1W -Platform for Soil Nail R. 1 & 2 | 6 | 23FEB06 | 01MAR06 | 27SEP08 | 04OCT08 |
| RE1260A | Slope CCR-S1W - Soil Nails (R. 1 & 2) Working | 12 | 20JAN06 | 06FEB06 | 08SEP06 | 21SEP06 |
| RE1560 | Slope CCR-S1W - Rock Stabilisation to 19.0mPD | 48 | 02FEB06 | 29MAR06 | 27JUL06 | 21SEP06 |
| RE1660 | Slope CCR-S1W - Drainage to Level +19.0mPD | 24 | 16MAR06 | 13APR06 | 08SEP06 | 07OCT06 |
| RE1270 | Slope CCR-S1W - Excavate to Lai Wan Road O/pass | 18 | 02FEB06 | 22FEB06 | 14JUN05 | 05JUL05 |
| RE16604 | Slope CCR-S1W - Drainage to Level +16.8mPD | 18 | 14APR06 | 05MAY06 | 09OCT06 | 30OCT06 |
| RE1665 | Slope CCR-S1W - Seed & Planting to +32.4mPD | 24 | 20JAN06 | 20FEB06 | 11AUG06 | 07SEP06 |
| RE1670 | Slope CCR-S1W - Seed & Planting to +24.9mPD | 24 | 21FEB06 | 20MAR06 | 08SEP06 | 07OCT06 |
| RE1675 | Slope CCR-S1W - Seed & Planting to +19.0mPD | 18 | 14APR06 | 05MAY06 | 09OCT06 | 30OCT06 |
| **Retaining Wall CCR-R2 (Value Engineering Design)** | | | | | | |
| RW1200 | Ch 02.13 to 41.71 -Excavate & Rock Stabilisation | 36 | 04APR05A | 27JAN06 | 04APR05A | 04OCT08 |
| RW1220 | Ch 02.13 to 41.71 - Mass Concrete Facing Wall | 24 | 24OCT05A | 08FEB06 | 24OCT05A | 07MAY05 |
| RW1230 | Ch 02.13 to 41.71 - Retaining Wall Base Slabs | 12 | 09FEB06 | 22FEB06 | 09MAY05 | 21MAY05 |
| RW1240 | Ch 02.13 to 41.71 - Retaining Wall Stem & Coping | 27 | 23FEB06 | 25MAR06 | 23MAY05 | 23JUN05 |
| RW1300 | Ch 50.71 to 78.27 -Excavate & Rock Stabilisation | 24 | 21OCT05A | 25JAN06 | 21OCT05A | 21DEC05 |
| RW1320 | Ch 50.71 to 78.27 - Mass Concrete Facing Wall | 27 | 26JAN06 | 01MAR06 | 22DEC05 | 24JAN06 |
| RW1330 | Ch 50.71 to 78.27 - Retaining Wall Base Slabs | 12 | 02MAR06 | 15MAR06 | 25JAN06 | 10FEB06 |
| RW1340 | Ch 50.71 to 78.27 - Retaining Wall Stem & Coping | 24 | 16MAR06 | 13APR06 | 11FEB06 | 10MAR06 |
| RW1400 | Ch 00.00 to 02.13 -Excavate & Rock Stabilisation | 12 | 21FEB06 | 06MAR06 | 04MAR06 | 17MAR06 |
| RW1420 | Ch 00.00 to 02.13 - Mass Concrete Facing Wall | 6 | 07MAR06 | 13MAR06 | 18MAR06 | 24MAR06 |
| RW1430 | Ch 00.00 to 02.13 - Retaining Wall Base Slabs | 6 | 14MAR06 | 20MAR06 | 25MAR06 | 31MAR06 |
| RW1440 | Ch 00.00 to 02.13 - Retaining Wall Stem & Coping | 16 | 21MAR06 | 08APR06 | 01APR06 | 20APR06 |
| **Slope Works Above Retaining Wall CCR-R2** | | | | | | |
| RE4000 | Ch 00.00 to 78.27 - Excavate in Benches | 48 | 27MAR06 | 23MAY06 | 24JUN05 | 19AUG05 |
| RE4010 | Ch 00.00 to 78.27 - Filter Layer | 48 | 11APR06 | 06JUN06 | 09JUL05 | 02SEP05 |
| **Retaining Wall CCR-R3 Type D, E & F** | | | | | | |
| RW2070 | Ret. Wall CCR-R3E - Break Down Top of Piles | 24 | 20JAN06 | 20FEB06 | 20MAY05 | 17JUN05 |
| RW2090 | Ret. Wall CCR-R3E - Capping beam | 24 | 27JAN06 | 27FEB06 | 27MAY05 | 24JUN05 |
| RW2110 | Ret. Wall CCR-R3E - Stem Walls | 24 | 24FEB06 | 23MAR06 | 22JUN05 | 20JUL05 |
| RW2190 | Ret. Wall CCR-R3F - Break Down Top of Piles | 12 | 03NOV05A | 25JAN06 | 03NOV05A | 22SEP08 |
| RW2200 | Ret. Wall CCR-R3F - Capping beam | 12 | 12NOV05A | 08FEB06 | 12NOV05A | 04OCT08 |
| RW2210 | Ret. Wall CCR-R3F - Stem Walls | 12 | 30NOV05A | 02FEB06 | 30NOV05A | 20JUL05 |




Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06



P3 File : LU28

Sheet 16 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

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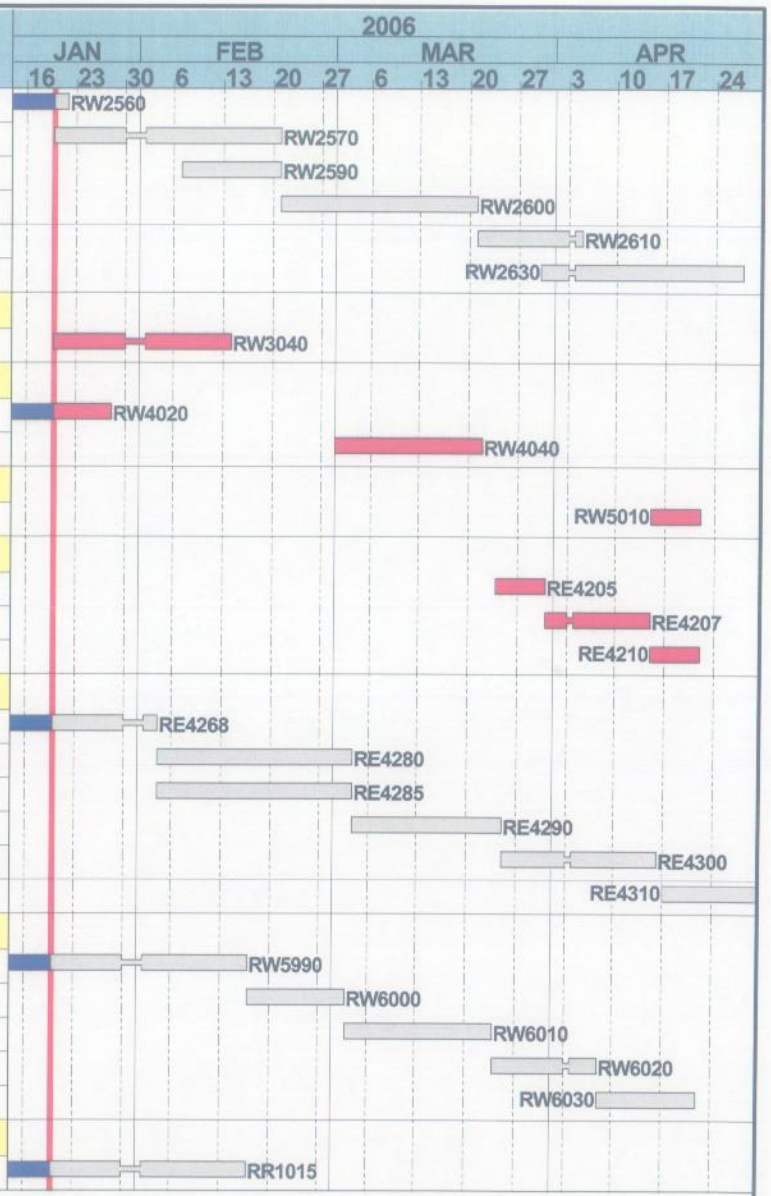
| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| RW2560 | Ret. Wall CCR-R3D - 10No Bored Piles Piles | 46 | 04NOV05A | 21JAN06 | 04NOV05A | 13APR06 |
| RW2570 | Ret. Wall CCR-R3D - Pile Testing | 24 | 20JAN06 | 20FEB06 | 30MAR06 | 27APR06 |
| RW2590 | Ret. Wall CCR-R3D - Erect Noise Barriers | 12 | 07FEB06 | 20FEB06 | 14APR06 | 27APR06 |
| RW2600 | Ret. Wall CCR-R3D - Break Down Top of Piles | 24 | 21FEB06 | 20MAR06 | 28APR06 | 26MAY06 |
| RW2610 | Ret. Wall CCR-R3D - Capping beam | 12 | 21MAR06 | 04APR06 | 27MAY06 | 09JUN06 |
| RW2630 | Ret. Wall CCR-R3D - Stem Walls | 24 | 30MAR06 | 27APR06 | 06JUN06 | 05JUL06 |
| **Retaining Wall CCR-R3 Type A** | | | | | | |
| RW3040 | Ret. Wall CCR-R3A - Backfill & Form Platform | 18 | 20JAN06 | 13FEB06 | 27SEP05 | 19OCT05 |
| **Retaining Wall CCR-R3 Type B** | | | | | | |
| RW4020 | Ret. Wall CCR-R3B - Bases | 24 | 03JAN06A | 27JAN06 | 03JAN06A | 17AUG05 |
| RW4040 | Ret. Wall CCR-R3B - Backfill & Form Platform | 18 | 01MAR06 | 21MAR06 | 15SEP05 | 07OCT05 |
| **Retaining Wall CCR-R3 Type C** | | | | | | |
| RW5010 | Ret. Wall CCR-R3C - Excavation & Blinding | 6 | 15APR06 | 21APR06 | 30SEP05 | 07OCT05 |
| **Slope Works Above Retaining Walls CCR-R3D, E & F** | | | | | | |
| RE4205 | Slope above CCR-R3E&F -Remove Piling Platform | 6 | 24MAR06 | 30MAR06 | 21JUL05 | 27JUL05 |
| RE4207 | Slope above CCR-R3E&F -Excavate Slope | 12 | 31MAR06 | 14APR06 | 28JUL05 | 10AUG05 |
| RE4210 | Slope above CCR-R3E&F- Filter - Btm. to 1st Berm | 6 | 15APR06 | 21APR06 | 11AUG05 | 17AUG05 |
| **Earthworks & Slope Works - CCR-S4** | | | | | | |
| RE4268 | Slope CCR-S4 - Excavate & Bench Upper Slope | 24 | 03JAN06A | 03FEB06 | 03JAN06A | 10FEB06 |
| RE4280 | Slope CCR-S4 - Fill and Compact | 24 | 04FEB06 | 03MAR06 | 11FEB06 | 10MAR06 |
| RE4285 | Slope CCR-S4 - Form New Access Road at Footpath | 24 | 04FEB06 | 03MAR06 | 11FEB06 | 10MAR06 |
| RE4290 | Slope CCR-S4 - Upper Slope Drainage | 18 | 04MAR06 | 24MAR06 | 04JUL06 | 24JUL06 |
| RE4300 | Slope CCR-S4 - Upper Slope Finishes | 18 | 25MAR06 | 15APR06 | 25JUL06 | 15AUG06 |
| RE4310 | Slope CCR-S4 - Excavate Lower Slope | 24 | 17APR06 | 15MAY06 | 25AUG06 | 21SEP06 |
| **Ching Cheung Road NTMM Retaining Wall A** | | | | | | |
| RW5990 | NNTM Wall A - Excavate to Formation | 36 | 09JAN06A | 16FEB06 | 09JAN06A | 19MAY06 |
| RW6000 | NNTM Wall A - Bases | 12 | 17FEB06 | 02MAR06 | 20MAY06 | 02JUN06 |
| RW6010 | NNTM Wall A - Walls | 18 | 03MAR06 | 23MAR06 | 03JUN06 | 24JUN06 |
| RW6020 | NNTM Wall A - Drainage & Fill Behind Walls | 12 | 24MAR06 | 07APR06 | 26JUN06 | 10JUL06 |
| RW6030 | NNTM Wall A - Excavate to +20.5mPD | 12 | 08APR06 | 21APR06 | 11JUL06 | 24JUL06 |
| **Drainage Works** | | | | | | |
| RR1015 | 1200 dia. Stormwater Diversion at Pier D4 | 58 | 21JUN05A | 16FEB06 | 21JUN05A | 04OCT08 |



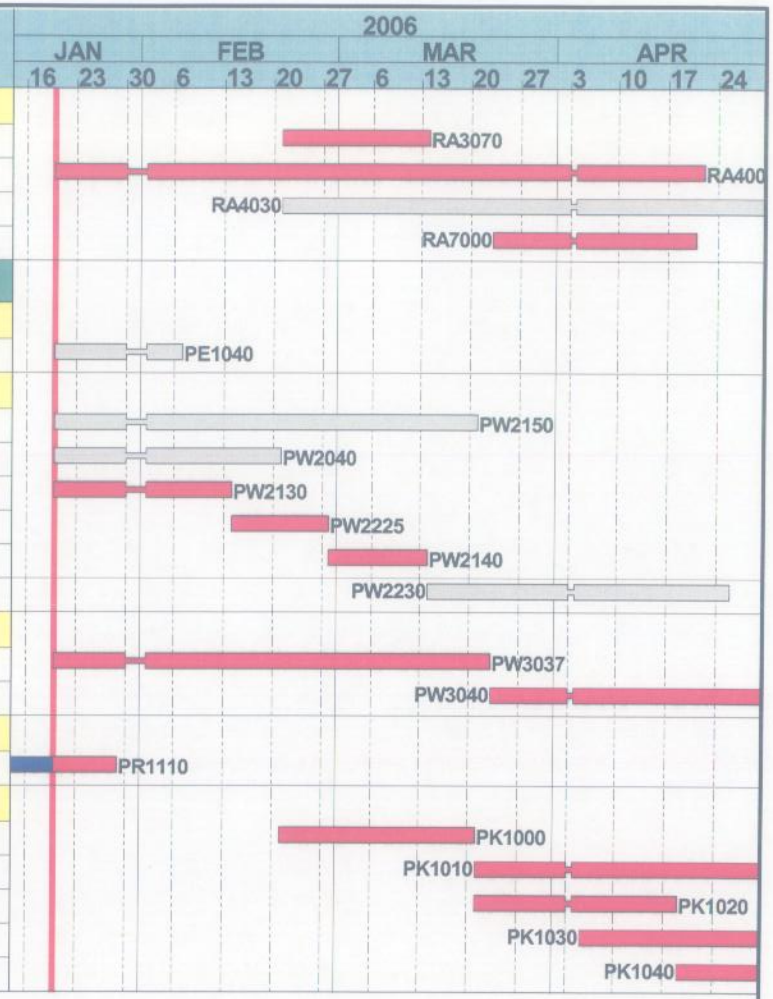

Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 17 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

| Activity ID | Activity Description | Orig. Durn. | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|
| **Utilities & Roadworks** | | | | | | |
| RA3070 | Ching Cheung Rd. New E/B - Sign Gantry Founds | 18 | 21FEB06 | 13MAR06 | 10DEC05 | 31DEC05 |
| RA4000 | Ching Cheung Rd. New E/B Slip Road - E&M +TCSS | 75 | 20JAN06 | 21APR06 | 26OCT05 | 23JAN06 |
| RA4030 | Ching Cheung Rd. New E/B - N/B Founds Base | 75 | 21FEB06 | 20MAY06 | 05MAY06 | 03AUG06 |
| RA7000 | Lai Wan Road - Watermains & Hydrants FH4 & FH5 | 24 | 23MAR06 | 20APR06 | 11FEB06 | 10MAR06 |
| **At Grade Works - Butterfly Valley Interchange** | | | | | | |
| **Earthworks & Slopeworks - 11NW-A/C26** | | | | | | |
| PE1040 | Slope 11NW-A/C26 - Finishing Works | 12 | 20JAN06 | 06FEB06 | 31OCT06 | 13NOV06 |
| **Retaining Wall CCR-R5 (Pre-bored "H" Piles)** | | | | | | |
| PW2150 | Ret. Wall CCR-R5 - R.C. Wall CCR-R5A | 48 | 20JAN06 | 20MAR06 | 08AUG08 | 04OCT08 |
| PW2040 | Ret. Wall CCR-R5 - Stage 1 - Fill Behind Wall | 24 | 20JAN06 | 20FEB06 | 05SEP08 | 04OCT08 |
| PW2130 | Ret. Wall CCR-R5 - Stage 2 - Install "H" Piles | 18 | 20JAN06 | 13FEB06 | 01NOV05 | 21NOV05 |
| PW2225 | Ret. Wall CCR-R5 - Complete Coping & Facing | 12 | 14FEB06 | 27FEB06 | 22NOV05 | 05DEC05 |
| PW2140 | Ret. Wall CCR-R5 - Complete Fill Behind Wall | 12 | 28FEB06 | 13MAR06 | 14FEB06 | 27FEB06 |
| PW2230 | Ret. Wall CCR-R5 - Slope Works Behind Wall | 36 | 14MAR06 | 25APR06 | 30SEP06 | 13NOV06 |
| **Retaining Wall CCR-R6 (Pre-bored "H" Piles)** | | | | | | |
| PW3037 | Ret. Wall CCR-R6 -Temporary Piling Platform | 50 | 20JAN06 | 22MAR06 | 02DEC04 | 31JAN05 |
| PW3040 | Ret. Wall CCR-R6 - "H" Piles A60-A63 & A1-A23 | 75 | 23MAR06 | 21JUN06 | 01FEB05 | 04MAY05 |
| **Utilities & Roadworks** | | | | | | |
| PR1110 | CLP Slew 2No.132kva No.5 Behind Wall CCR-R5 | 18 | 21DEC05A | 28JAN06 | 21DEC05A | 14NOV05 |
| **Kiosk at Slip Road C** | | | | | | |
| PK1000 | Kiosk at Slip Rd. C - Structure | 24 | 21FEB06 | 20MAR06 | 29OCT05 | 25NOV05 |
| PK1010 | Kiosk at Slip Rd. C - Building Finishes | 48 | 21MAR06 | 17MAY06 | 26NOV05 | 23JAN06 |
| PK1020 | Kiosk at Slip Rd. C - MVAC Installation | 24 | 21MAR06 | 18APR06 | 26NOV05 | 23DEC05 |
| PK1030 | Kiosk at Slip Rd. C - Electrical Works | 24 | 05APR06 | 03MAY06 | 10DEC05 | 09JAN06 |
| PK1040 | Kiosk at Slip Rd. C - Drainage Works | 24 | 19APR06 | 17MAY06 | 24DEC05 | 23JAN06 |




Start Date 23SEP03
Finish Date 04OCT08
Data Date 20JAN06

P3 File : LU28

Sheet 18 of 18

**Highways Department Contract No. HY/2003/01**
**Route 8 - Lai Chi Kok Viaduct**
**3 month Rolling Programme**
**From 20 January 2006**

**APPENDIX M**
**COMPLAINT LOG**

## Appendix M - Complaint Log

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
|---|---|---|---|---|---|
| 40318 | Nob Hill | 18 March 2004 | Kwai Tsing District Officer (KTDO) recently received a public noise complaint about construction noise generated from the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, near Nob Hill, Lai Chi Kok. KTDO referred the complaint to the Highways Department (HyD) on the same day. HyD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 18 March 2004.<br><br>The complaint was raised by the Citybase Property Management Ltd. (the management company of Nob Hill) and the Secretarty of Nob Hill Owners Committee (Mr. Kevin Tse) about construction noise generated from the R8-LCKV Project at the work areas near Nob Hill. Mr. Kevin Tse mentioned that residents living in Nob Hill have greatly been affected by the noise impacts generating from the R8-LCKV construction works. He also requested relevant government departments to consider installing noise barrier along Ching Cheung Road and to work out possible measures to minimize the noise nuisances to the residents living in the vicinity. | Based on the information provided by the ER, the construction activities conducted in the vicinity of Nob Hill in the period between 2 and 18 March 2004 were:<br><br>▪ Item 1 – Breaking off existing planter and excavate trial trench to expose underground utilities (using one to two backhoes)<br>▪ Item 2 – Erect rock fall fence & forming platform for pre-drilling (using one backhoe and occasionally one crane lorry)<br>▪ Item 4 – Excavate further to expose all underground utilities (using hand tools)<br>▪ Item 5 – Pre-drilling works (using one drilling rig)<br><br>Considering the scale of work and the PMEs adopted, the ET believed that the construction noise impact at Nob Hill from the above construction activities of R8-LCKV was not significant.<br><br>The bored piling work (Item 3) using one crawler crane and one oscillator was started on 19 March 2004, which was two days after the issue date of this complaint, so this activity was not considered in this report.<br><br>According to the EM&A Manuals, Nob Hill was not selected as Noise Monitoring Location (NML) for the Project. Therefore, no direct noise monitoring data could be provided for the complaint investigation. However, there was no noise level exceedance recorded at the nearby NML (NM4 – Mei Foo Sun Chuen, Phase 5) since the commencement of the project according to ET's inventory.<br><br>During ET's weekly environmental site inspections on 3, 10, 17 March 2004, no serious noise nuisance induced by the Project works was observed at the sites near Nob Hill.<br>Based on the joint site visit with the representative of HyD, IEC, RSS and ET to the Nob Hill on 30 March 2004, the major noise | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
|---|---|---|---|---|---|
| | | | | source at Nob Hill was identified as traffic noise on Ching Cheung Road, which is located very close to this building, especially at or above the Podium Floor (i.e. 5/F).<br><br>Based on the information obtained, this noise complaint is not considered due to the construction activities of the Project. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise, such as:<br>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;<br>• To avoid concurrent uses of noisy equipment near the sensitive area;<br>• To ensure the equipment are maintaining in good operation condition; and<br>• To turned off any idle equipment on site.<br><br>Adding to that, ET is proposed to install one to two noise monitoring stations at Nob Hill in order to monitor the noise impact generated from the R8-LCKV Project to the resident of Nob Hill or the nearby buildings. | |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
|---|---|---|---|---|---|
| 40330 | Site Areas near Nob Hill | 30 March 2004 | Highways Department (HyD) recently received a public noise complaint about construction noise generated from the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, near Nob Hill, Lai Chi Kok. HyD referred the complaint to the RSS and subsequently referred to the ET Leader of the Project on 30 March 2004.<br><br>The complaint was raised by Mr. Yau, the Office of DCV Member Mr. Cheung Wing Shum, regarding the high pitch construction noise generated at the R8-LCKV site which cause serious nuisance to the residents at Mei Foo. | Based on the information provided by the RSS, the Contractor was not aware of any high pitched construction noise arising from plant employed for their works. The noise complaint referred to may be originated from the damage of a gas main valve on the afternoon of 29 March 2004 in the vicinity of the junction of Mai Lai Road with Lai King Hill Road. The high pitched whistle apparently resulted from the damage which was repaired by TownGas in that afternoon.<br><br>Based on the information obtained, this noise complaint is considered not due to the construction activities of the Project. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise, such as:<br><br>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;<br>• To avoid concurrent uses of noisy equipment near the sensitive area;<br>• To ensure the equipment are maintaining in good operation condition; and<br>• To turned off any idle equipment on site. | Closed |
| 40402 | Nob Hill | 06 April 2004 | A public noise complaint was received by the Contractor (NECSO) on 02 April 2004 regarding the noise generated from the Ching Cheung Road Widening Works of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, near Nob Hill, Lai Chi Kok.<br><br>NECSO referred the complaint to the RSS and subsequently referred to the ET Leader of the Project on 6 April 2004 | The complaint was raised by Ms Wong, regarding the noise generated from the Ching Cheung Road Widening Works of the R8-LCKV Project, which cause serious nuisance to her.<br><br>Based on the information provided by the RSS, the plants employed by the Contractor for carrying out bored piling works in front of Nob Hill should not generate excessive noise. The RSS had also checked against the site records that no piling works was in progress in front of Nob Hill on 1-3 April 2004.<br><br>According to telephone communication between the complainant (Ms Wong) and the RSS on 8 April 2004, the RSS reported that Ms Wong was not complaining about the construction noise generated by the R8-LCKV Project. She was actually complaining about the traffic noise she anticipated to be generated after completion of widening work at Ching Cheung | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| | | | | Road in front of Nob Hill.<br><br>During ET's weekly environmental site inspections on 17, 24 & 31 March 2004 and 7 April 2004, no serious noise nuisance induced by the Project works was observed at the construction sites near Nob Hill.<br><br>Based on the joint site visit with the representative of HyD, IEC, RSS and ET to the Nob Hill on 30 March 2004, the major noise source at Nob Hill was identified as traffic noise on Ching Cheung Road, which is located very close to this building, especially at or above the Podium Floor (i.e. 5/F).<br><br>Based on the information obtained, this noise complaint is considered not due to the construction activities of the Project.<br><br>Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise, such as<br>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;<br>• To avoid concurrent uses of noisy equipment near the sensitive area;<br>• To ensure the equipment are maintaining in good operation condition; and<br>• To turned off any idle equipment on site. | |
| 40710 | Pier P7 in Portion E1 | 10 July 2004 | A public complaint was raised on 30th June 2004 regarding the washout of muddy water from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, at Pier P7 onto Lai Chi Kok Road.<br><br>The complaint was referred to the RSS on 3rd July 2004 and subsequently referred to the ET Leader of the Project on 10th July 2004. | Based on the information provided by the RSS, the spillage of muddy water was in fact due to a burst in a temporary water pipe being utilized in the piling operations at Pier P7 in Portion E1.<br><br>Emergency remedial works were undertaken preventing further spillage of muddy water. The remaining ponding water within the works area arising from the burst was all removed from the area on 5th July 2004.<br><br>During ET's weekly environmental site inspection on 14th July 2004, no serious water quality nuisance induced by the Project works was observed at the construction sites near Pier P7. It was | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| | | | The complaint was raised by Mr. Chan, regarding the washout of muddy water from the works area of the R8-LCKV Project onto Lai Chi Kok Road. The washout caused nuisance to the drivers utilizing the road, and may also cause danger to the motorbikes. | also noted that the back of profile barriers along the site boundary had been sealed up by cement as preventive measures.<br><br>During ET's weekly environmental site inspections on 17, 24 & 31 March 2004 and 7 April 2004, no serious noise nuisance induced by the Project works was observed at the construction sites near Nob Hill.<br><br>Based on the information obtained, the complaint is considered due to the construction activities of the Project. Emergency remedial works had been taken by the Contractor to rectify the situation and preventive measures had also been implemented.<br><br>Nevertheless, the Contractor was recommended to adopt the following measures to avoid re-occurrence of similar incidents:<br>• to enhance surface runoff control measures along the site boundary;<br>• to provide adequate training to the frontline workers; and<br>• to regularly inspect temporary water supply equipment, such as hose pipe to make sure the equipment is in good condition. | |
| 40809 | Ching Cheung Road area near Nob Hill | 22-Jul-04 (by EPD)<br><br>09-Aug-04 (by ET Leader) | EPD received a public noise complaint on 22 July 2004 about construction noise and dust generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, at the Ching Cheung Road Area near Nob Hill. EPD subsequently referred the complaint to the ET Leader of the Project on 9 August 2004.<br><br>The complaint was about the construction noise and dust observed at the Ching Cheung Road area near Nob Hill. The locations of the works areas being concerned by the complainant include:<br><br>1. **Area A**: Works area between Nob | ***Information Provided by RSS***<br>Information (construction activities and equipment adopted) in a 2-week period before the date of complaint, i.e. 7 to 21 July 2004, was obtained from the Resident Site Staff.<br>**Area A:**<br>▪ Item 1 – Drainage works by using 1 x backhoe;<br>▪ Item 2 – Bored piling works by using 1 x crawler crane, 1 x air compressor, 1 x reverse circulation drill and 1 x power pack;<br>▪ Item 3 – Trial trench excavation by man power;<br>▪ Item 4 – Gas main diversion by 1 x backhoe (performed by TGC's Contractor)<br>**Area B:** No construction activity was undertaken in the concerned period.<br><br>***Review of Environmental Monitoring Results*** | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| | | | Hill and Lai Chi Kok Park Swimming Pool<br>2. **Area B**: Works area between Ching Cheung Road and Mei Lai Road / Lai Wan Road opposite to Mei Foo Sun Cheung (Phase 5) and Lai Chi Kok Public Library. | The routine monitoring stations, which are in the vicinity of the concerned works areas, include:<br><u>Noise Monitoring</u><br>NM4: R/F of Mei Foo Sun Chuen (Phase 5)<br>NM8a: M/F of Nob Hill<br>NM8b: 3/F of Nob Hill<br><u>Air Quality (1-hr TSP / 24-hr TSP) Monitoring</u><br>AM2: R/F of Lai Chi Kok Sports Centre<br>No Action / Limit level exceedance was identified in July 2004.<br><br>***Environmental Site Inspection***<br>During the ET site inspections on 8th, 14th and 20th July 04, no major environmental deficiency with regard to noise and air quality was identified by the auditors.<br><br>***Conclusions***<br>Based on the RSS's information, environmental monitoring results as well as the observations made during site inspections, this complaint is considered to be invalid and not due to the construction activities of the Project. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise and dust impacts, such as:<br>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;<br>• To avoid concurrent uses of noisy equipment near the sensitive area;<br>• To ensure the equipment are maintaining in good operation condition;<br>• To turn off any idle equipment on site.<br>• To cover excavated dusty materials by impervious sheeting;<br>• To provide water spray for haul roads, loading/unloading and concrete breaking operations;<br>• To perform wheel wash for every vehicle immediately before leaving the site. | |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 50215 | Mei Foo Sun Chuen, Phase 5 (Retaining Wall CC-R3) | 15-Feb-05 (by ET Leader) | A public complaint was raised on 8th Feb 2005 regarding construction noise from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project near Mei Foo Sun Chuen. The complaint was referred to the Resident Site Staff on 14th Feb 2005 and subsequently referred to the ET Leader of the Project on 15th Feb 2005.<br><br>The complaint was raised by a resident in Mei Foo Sun Chuen, regarding the noise generation from the piling work at Retaining Wall CC-R3, adjacent to Po Leung Kuk Tong Nai Kan College. | ***Construction Activities***<br><br>During the weekly site inspection on 17 Feb 05, piling work was being conducted at the concerned. The major powered mechanical equipment (PME) in operation included a mobile crane, an air compressor, a reverse circulation drill and a generator.<br><br>In view of the separation of the site area and the residential building (around 40 m) and also the high traffic noise from Ching Cheung Road as well as Mei Lai Road, the noise generated from the operation of the PME was believed to be insignificant.<br><br>***Environmental Monitoring***<br><br>The noise monitoring results at Station NM4 (Mei Foo Sun Chuen, Phase 5) for the last 3 months were reviewed in order to evaluate the noise impact from the Project on the noise sensitive receiver. The measured noise levels in last three threes were ranged from 70.8 to 75.8 dB(A). It was observed that the measured noise levels were well within the range of baseline noise levels (69.2 to 75.8 dB(A)).<br><br>The corrected construction noise levels were found to be ranged from 63.5 to 71.5 dB(A), which were well below the noise criterion of 75 dB(A).<br><br>***Conclusions***<br><br>Based on the information obtained and the noise monitoring results, this complaint is considered to be invalid and not due to the construction activities of the Project.<br><br>Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise impacts. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 50322 | Seung Lai House, Wah Lai Estate (Slope S1) | 11-Mar-05 (by EPD)<br><br>22-Mar-05 (by ET Leader) | Environmental Protection Department (EPD) received a public noise complaint on 11 Mar 05 about daytime construction noise generation from R8-LCKV. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 22 Mar 05.<br><br>The complaint was raised by a resident of Seung Lai House of Wah Lai Estate, regarding the daytime (0800-1800 hrs) construction noise generated from the slope work and road work of R8-LCKV Project. As advised by EPD, the complainant is living on 20/F or above in Seung Lai House. | ***Construction Activities***<br><br>As advised by the RSS, the major construction work during 25 Feb 05 to 11 Mar 05 (2 weeks before the date of complaint) in the vicinity of Wah Lai Estate included excavation work, soil nail work and installation of u-channel and manholes. The major powered mechanical equipment included excavators, drilling machine and air compressor.<br>In view of the separation of the site area (Slope S1) and the Seung Lai House (around 140 m) and also the traffic noise from Ching Cheung Road, the noise generated from the construction activities at Slope S1 was believed to be insignificant.<br><br>***Environmental Monitoring***<br><br>Ad-hoc noise measurement was conducted at Seung Lai House on 30$^{th}$ Mar 05 and the measured noise level (Leq-30min) was 66.9 dB(A), which was well below the criterion for daytime construction noise of 75 dB(A). The construction noise level (with reduction of background noise level) is expected to be even lower.<br><br>***Conclusion***<br><br>Based on the information obtained and the noise measurement results, this complaint is considered not justifiable. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise impact. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 50330, 50331, 50404 & 50407 | Wah Lai Estate | 30-Mar-05, 31-Mar-05, 4-Apr-05 & 7-Apr-05 (by ET Leader via RSS) | Four public complaints were lodged by the residents of Wah Lai Estate regarding the construction noise from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project near Wah Lai Estate. The complaints were referred by the Resident Site Staff to the Environmental Team (ET) Leader on 30th, 31st March, 4th and 7th April 2005, respectively. | ***Construction Activities***<br><br>The site of concern was likely to be Slope S1, which is around 140 m away from Wah Lai Estate. The major construction work at Slope S1 included trimming of slope, soil nail work and erection of u-channels and step channels.<br><br>***Environmental Monitoring***<br><br>Ad-hoc noise measurement was conducted at Seung Lai House on 30th Mar 05 and 7th Apr 05 and the measured noise levels (Leq-30min) were ranged from 66.9 to 69.1 dB(A), which were well below the criterion for daytime construction noise of 75 dB(A). The construction noise level (with reduction of background noise level) is expected to be even lower.<br><br>***Conclusion***<br><br>Based on the results of the ad-hoc noise measurements at Wah Lai Estate, no exceedance of daytime noise criterion of 75 dB(A) was recorded. The complaints lodged are therefore considered not justifiable.<br><br>***Mitigation***<br><br>The Contractor agreed to arrange the noisy activities to commence after 8:00 am. This arrangement could effectively reduce the disturbance to the residents within the more sensitive time period (7:00 am to 8:00 am). | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 50404-v2 | Mei Foo Sun Chuen | 4-Apr-05 (by ET Leader via RSS) | A public complaint was raised on 1st April 2005 regarding construction noise from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project near Mei Foo Sun Chuen. The complaint was referred to the Resident Site Staff and the ET Leader on 4th April 2005. | ***Construction Activities***<br><br>The site of concern was likely to Retaining Wall CC-R3, adjacent to Po Leung Kuk Tong Nai Kan College. The major construction works at this area included bored piling works and excavation works.<br><br>***Environmental Monitoring***<br><br>According to the EM&A Manual, Mei Foo Sun Chuen, Phase 5 (NM4) is designated as one of the noise monitoring stations.<br><br>Since the commencement of the impact monitoring programme, the construction noise levels recorded at this station were all below the noise criterion.<br><br>***Conclusion***<br><br>Based on the noise monitoring results at Station NM4 (Mei Foo Sun Chuen), no exceedance of daytime noise criterion of 75 dB(A) was recorded since the commencement of the impact monitoring programme. The complaint lodged is therefore considered not justifiable.<br><br>***Mitigation***<br><br>The Contractor has agreed to arrange the noisy activities to commence after 8:00 am. This arrangement could effectively reduce the disturbance to the residents within the more sensitive time period (7:00 am to 8:00 am). The Contractor also agreed to provide some temporary noise barriers for the noisy machinery if found necessary. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 50613 | Mei Foo Sun Chuen | 7-Jun-05 (by EPD)<br><br>13-Jun-05 (by ET Leader) | According to EPD, the complaint was raised by a resident of Mei Foo Sun Chuen (Block 7, Phase 5) on 7 June 2005. It was about construction dust emitted intermittently from the slope works undertaken on the other side of Mei Lai Road.<br><br>The complainant was particularly concerned about the fugitive dust emission during rock / concrete breaking activities. | *Site Activities*<br><br>The site of concern was likely to be CCR-R3. Bored piling works and demolition of existing retaining walls were undertaken at this area in the period between 1 and 7 June 2005. It was believed that the demolition of existing retaining wall, which involved concrete breaking, was the activity of concern.<br><br>*Observations*<br><br>On 1 Jun 05, one of the environmental deficiencies noted by the ET was about fugitive dust emission from breaking activities at CCR-R3. The Contractor was reminded to provide sufficient dust mitigation measures for the breaking works. Immediate action was taken by the Contractor to apply water spray for the works as observed during the audit session.<br><br>On 9 Jun 05, the breaking works were still being taken at CCR-R3. Water spray as a dust mitigation measure was being adopted by the Contractor during the audit. No observable dust emission was noted from the breaking works or other site activities.<br><br>On 15 Jun 05, the same area was re-inspected due to the receipt of the complaint from EPD. The demolition works had been finished and no other dust emissive activity was being taken. No other dust source from the construction site was observed during the inspection.<br><br>***Conclusion***<br><br>Based on the observations noted during our site inspections, this complaint is considered to be valid and related to the construction activities of the Project.<br><br>However, corrective action had been taken by the Contractor and the situation was found improved during the follow-up inspections. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 50721 | Hei Lai House, Wah Lai Estate | 21-Jul-05 (by ET Leader) | The complaint was lodged by a resident of Hei Lai House of Wah Lai Estate through a Legislative Council member. The complaint was about construction noise nuisance caused by rock breaking work, which claimed to be started from 8:30am daily, carried out at Ching Cheung Road near Wah Lai Estate.<br><br>The complainant hoped that the rock breaking work could start later i.e. be carried out from noon to afternoon and the site could be fully enclosed.<br><br>The Environmental Team (ET) of the Project received the complaint on 21 July 2005 and forwarded it to the Resident Site Staff (RSS) to obtain necessary information. | *Site Activities*<br><br>The slope work at Slope S1 was likely to be the activity of concern. The work at Slope S1 recently included the operation of excavator mounted breakers, excavators and dump trucks.<br><br>The time period of concern was within normal working hours (7am to 7pm) on a weekday not being a public holiday. The noise criterion is 75 dB(A) for domestic premises.<br><br>*Noise Measurement*<br><br>Ad-hoc measurements were carried out on the roof of Hei Lai House on 25 July 2005.<br><br>The results show that the measured noise level is well below the noise criterion of 75 dB(A). The construction noise level (with reduction of background noise) is expected to be even lower.<br><br>*Conclusion*<br><br>Since the noise measurement results at Wah Lai Estate were below 75 dB(A), the complaint was considered not justifiable.<br><br>Nevertheless, noise mitigation measures have been implemented by the Contractor to minimize the noise impact arising from the breaking activities:<br><br>1. Employment of silenced-type breakers;<br>2. Temporary noise barriers, attached with sound adsorption materials, were erected to screen the site of breaking from sensitive receivers<br>3. While the permitted hours for construction works are 7am to 7pm on non-holidays, the Contractor has commenced the rock breaking activity after 8:30am. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 51107 | Ching Cheung Road near Mei Foo Sun Chuen | 7-Nov-05 (by the ET Leader) | Environmental Protection Department (EPD) received a public complaint about environmental nuisance generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 7 November 2005.<br><br>According to EPD, the complaint was raised by a resident of Mei Foo Sun Chuen. The complaint was about dark smoke, dust and noise nuisance caused by the construction work of R8-LCKV near Mei Foo Sun Chuen. | The site of concern was likely to be CCR-S4 and CCR-R3. According to RSS's records, bored piling works and soil nail drilling at CCR-R3, excavation works at CCR-S4 in the concerned period.<br><br>***Site Inspection***<br><br>After receipt of the complaint, an ad-hoc site inspection was carried by ET on 9 November 2005 and the following observations were made:<br><br>1. Breaking activities were undertaken at CCR-R2 and R3. Continuous water spray was applied by the workers for dust suppression. Movable noise barriers were erected to alleviate the noise impact.<br>2. The haul roads and exposed works areas were observed wet. A water sprinkler was installed at the CCR-S4 for water spraying.<br>3. Most of the slope was shot-creted to avoid wind erosion.<br>4. Bored piling work was carried out near the site exit of CCR-R3. Since bored piling mainly involves handling of wet materials, dust nuisance causing by this type of work is not anticipated. Gas exhaust from the machines was visually clear and no dark smoke was identified.<br><br>*Environmental Monitoring*<br><br>Air quality monitoring was conducted at Lai Chi Kok Sports Centre and noise monitoring is conducted at Mei Foo Sun Chuen. No exceedance was recorded for both monitoring.<br><br>*Conclusion*<br><br>Based on the ad-hoc site inspection and the environmental monitoring results, this complaint was considered not justifiable. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 60118 | Lai Po Road near Hoi Lai Estate | 18-Jan-06 (by the ET Leader) | Environmental Protection Department (EPD) received a public complaint about environmental nuisance generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 18 January 2006.<br><br>According to EPD, the complaint was lodged by a resident of Hoi Ming House of Hoi Lai Estate. The complaint was about construction noise nuisance caused by construction work of R8-LCKV carried out at Lai Po Road near Hoi Lai Estate. The noise nuisance was noted since 14 January 2006 during the periods from 2330 hrs to 0600 hrs. | ***Site Activities***<br><br>According to the RSS's records, night works were carried out by the Contractor between 2000 hrs on 14 January 2006 and 0530 hrs on 15 January 2006:<br><br>• Delivery of segment from storage yard near Pier P5/L to Pier 15 for erection;<br>• Stressing to temporary PT bars of segments at Pier B3.<br><br>The above night works, which involved operation of tractor, mobile crane, lifting frame and generator, were undertaken under the two construction noise permits CNP no. GW-RW0739-05 and GW-RW0740-05.<br><br>***Environmental Monitoring***<br><br>In order to evaluate the noise impact onto the residents of Hoi Lai Estate, nighttime noise monitoring was carried out on 18 January 2006 at 23:00. The above monitoring results revealed that the measured noise levels were close to the reference background levels. After correction of the mean background level, all corrected noise levels were below the noise criterion of 55 dB(A).<br><br>***Conclusion***<br><br>Based on the information collected and the monitoring results, the complaint is considered not justifiable.<br><br>Nevertheless, the Contractor was reminded to take sufficient noise mitigation measures to minimize the environmental impact on the nearby community. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 60119 | Mei Foo Sun Chuen (Phase 5) | 18-Jan-06 (by the ET Leader) | Environmental Protection Department (EPD) received a public complaint about environmental nuisance generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 19 January 2006.<br><br>According to EPD, the complaint was raised by a resident of Mei Foo Sun Chuen via a Sham Shui Po District Council Member's Office. The complaint mentioned that residents of Mei Foo Sun Chuen Stage 5 were adversely affected by construction dust caused by the Route 8 work carried out at the slopes adjacent to Ching Cheung Road. | ***Site Activities***<br><br>The site of concern was likely to be CCR-S4, CCR-R2 and CCR-R3. According to RSS's records, site activities included:<br>• Trimming of existing rock slope at CCR-S4;<br>• Excavation and rock dowel installation at CCR-R2; and<br>• Construction of cable trough at CCR-R3 by CLP's contractor.<br><br>***Site Inspection***<br><br>After receipt of the complaint, an ad-hoc site inspection was carried by ET on 19 January 2006. No environmental deficiency regarding construction dust was identified during the inspection.<br><br>***Environmental Monitoring***<br><br>All monitoring results in Jan 06 revealed that no exceedance was recorded for the air quality (1-hr and 24-hr TSP) criteria.<br><br>***Contractor's Action***<br><br>The Contractor of R8-LCKV had implemented several dust mitigation measures:<br>• Haul roads, exposed slope surface and soil stockpiles were watered regularly by hose pipes and sprinklers;<br>• Idled exposed slope were shot-creted; and<br>• Watering was applied for the dust emissive activities, such as loading and unloading of dusty materials, excavation and breaking works.<br><br>*Conclusion*<br><br>Based on the ad-hoc site inspection and the environmental monitoring results, this complaint was considered not justifiable. Nevertheless, the Contractor was reminded to keep on the dust mitigation measures being implemented and step up the measures if necessary. | Closed |

| Log Ref. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
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| 60213<br>60216<br>60220<br>60222 | Hoi Lai Estate (Lai Po Road) | 13-Feb-06<br>16-Feb-06<br>20-Feb-06<br>22-Feb-06<br><br>(by the ET Leader) | Four environmental complaints were received in this reporting month. Three of them were referred by EPD on 13th, 20th and 22nd Feb 06 and the other one was referred by HyD via MHJV on 16th Feb 06.<br><br>All about construction noise due to night works at Lai Po Road near Hoi Lai Estate. | ***Site Activities***<br><br>Since around mid-January 2006, segments were transported to Piers P15 and B4, under the permission of construction noise permit (CNP).<br><br>It was suspected that the sound of concern was generated from tractors for precast segment transportation. In view of the safety of workers, an alert sound and flashing are maintained during backing action of the tractors.<br><br>***Site Inspection***<br><br>An ad-hoc inspection was carried out by the ET on 16 Feb 06 from 00:30 to 02:30 am. Noise measurement was carried out during the inspection to evaluate the noise impact onto the residents of Hoi Lai Estate. During the monitoring, the major noise source identified was the road traffic noise from Sham Mong Road and Lai Po Road. No alarm sound or alike from the construction equipment was noted. The above monitoring results revealed that the measured noise levels were close to the reference baseline level. After correction of the mean background level, most of data were below the noise criterion of 55 dB(A).<br><br>*Conclusion*<br><br>Based on the information collected and the monitoring results, the complaints are considered not justifiable.<br><br>It was suspected that the nuisance was caused by the alert sound of tractors during backward movement which servers as a safety measure. However, the RSS and the Contractor are considering the possibility of lowering the alert sound level or replacing by a less disturbing pitch in order to minimize the noise nuisance to residents of Hoi Lai Estate. | Closed |