

**Sha Tin New Town, Stage II Road D15 Linking Lok Shun Path and  
Tai Po Road (Contract No. ST 77/01)**

**Monthly Environmental Monitoring & Audit Report –  
April 2003**

Checked in accordance with EML QP22  
Environmental Team Leader



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## EXECUTIVE SUMMARY

The impact environmental monitoring report was prepared by Environmental Management Limited (EML) for Environmental Monitoring & Audit (EM&A) Services of Sha Tin New Town, Stage II Road D15 Linking Lok Shun Path and Tai Po Road. This report discusses the EM&A services that had been carried out in April 2003.

Environmental monitoring for this Project included both air quality and noise measurements. The parameters measured for air quality are 24-hour and 1-hour Total Suspended Particulate (TSP) while for noise monitoring, the A-weighted continuous sound pressure level ( $L_{eq}$ ) as well as percentile levels ( $L_{10}$  and  $L_{90}$ ) were measured.

Over the reporting period, all monitored 24-TSP, 1-hour TSP and noise ( $L_{eq}(5min)$ ) monitoring data were below the AL Levels and no remedial actions as listed in the Event and Action Plan (**Appendix G**) were required.

The major construction activities in this reporting period included:

- Erection of fencing & hoarding
- Drainage works
- Fabrication precast beams
- Construction of Bridge A, B and C, including construction of pile cap & pier, abutment wall, bridge heading installation, bridge deck construction and bridge deck drainage
- Retaining walls and stairs construction
- Noise barrier construction
- Box culvert extension
- Underground drainage and utilities

Regular site inspection was conducted in this reporting month and the mitigation measures, as discussed in the relevant documents, were assessed.

In comparison to last month, it was noted from site inspections that regular cleaning of the public road outside the site entrance had been conducted and wastewater generated from the cleaning had been properly treated before the discharge. Occasionally, stagnant water was observed on the site but was removed by the Contractor when instructed. From site inspection, further improvement, including maintenance and cleaning, to the stream near Lok Shun Path Roundabout was necessary. In addition, proper removal of the sludge generated from Wetsep shall be required. Meanwhile, some leakage of oil was observed from a couple of equipments on the Site. In order to prevent land contamination, the Contractor was instructed to place metal trays underneath the affected area and remove the contaminated soil immediately for proper disposal as chemical waste. In addition, it was recommended that the equipments be fixed in order to prevent possible land contamination.

## 1. INTRODUCTION

### 1.1 Background

Environmental Management Limited (EML) was appointed by Maunsell Consultants Asia Ltd. as the Environmental Specialist for the project *Sha Tin New Town, Stage II Road Linking Lok Shun Path and Tai Po Road* (Contract No. ST 77/01).

The responsibilities of the Environmental Team included:

- Monitor the noise and air quality data as required in the Environmental Monitoring and Audit (EM&A) Manual;
- Analyse the monitoring data and review the success of EM&A program to cost effectively confirm the adequacy of mitigatory measures implemented and validity of the Environmental Impact Assessment Study predictions and to identify any adverse environmental impacts arising;
- Carry out site inspection to investigate and audit the Contractor's site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, and anticipate environmental issues for proactive action before problems arise;
- Review the proposal for mitigation measures submitted by Contractor in accordance with Event and Action Plans;
- Propose any improvement or other alternative mitigation measures should Contractor's proposal be found to be inadequate;
- Adhere to the procedures for carrying out complaint investigation;
- Audit and prepare EM&A reports on environmental monitoring data and site environmental conditions and;
- Report on EM&A results to Engineer, the ER and EPD.

This is the monthly EM&A report for April 2003. This monthly report describes the results of the impact air quality and noise monitoring works in the reporting period as well as the environmental status and issues of Road D15 Construction Site. In addition, if required, any remedial/follow-up actions undertaken as a result of non-compliance with relevant environmental criteria or complaints related to Road D15 Construction Site would also be discussed.

The project area of Road D15 Construction Site is shown in **Figure 1.1**.

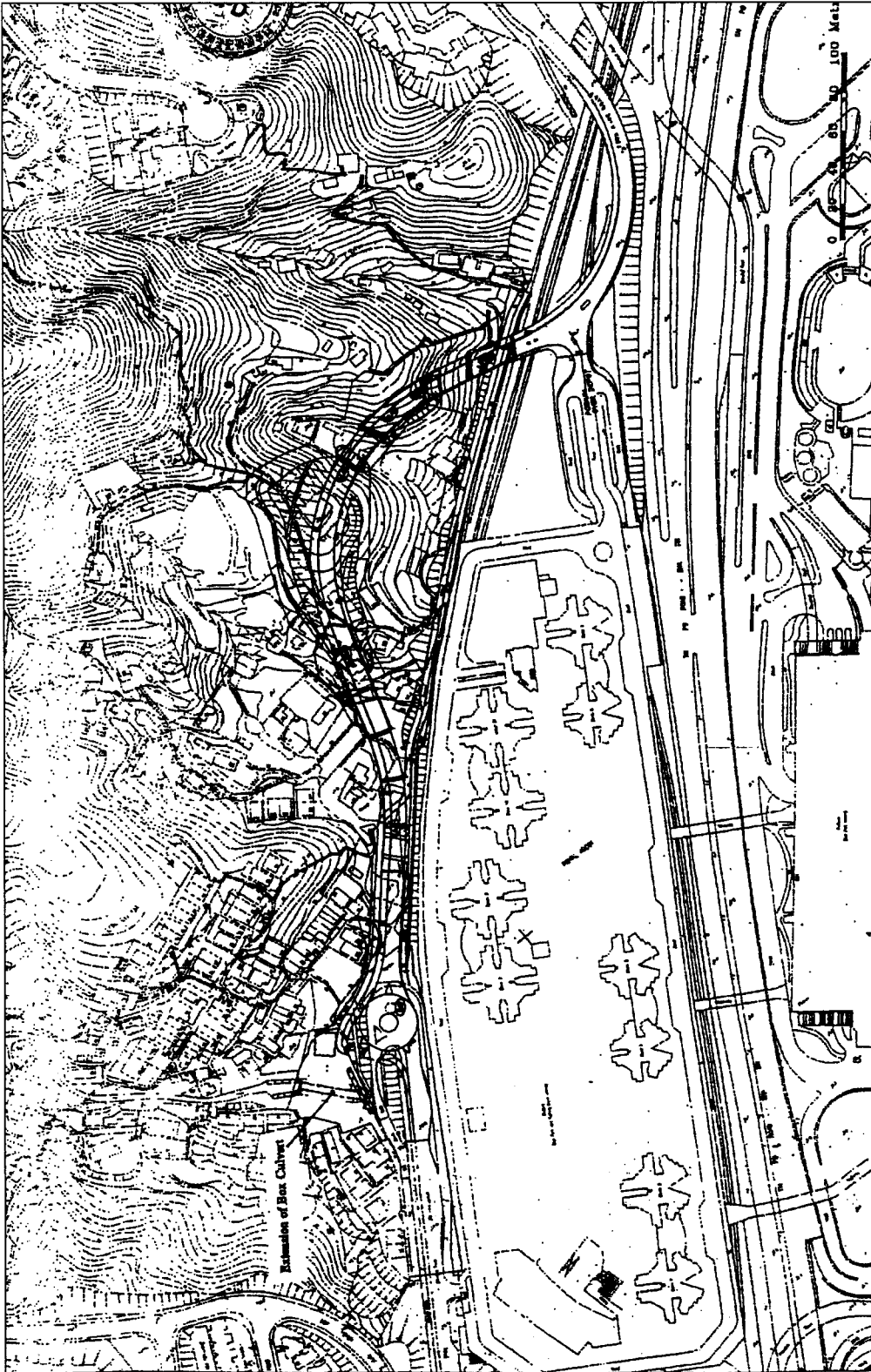


Figure 1.1 Project Area

## 2. ENVIRONMENTAL STATUS

### 2.1 Air Quality

#### 2.1.1 *Monitoring Requirements*

In accordance with the EM&A Manual, air quality impact monitoring was conducted in terms of 1-hour and 24-hour TSP at the designated monitoring locations.

Continuous 24-hour TSP monitoring was performed once in every six days while 1-hour TSP monitoring was performed 3 times in every 6 days. The Action and Limit (AL) levels for air quality is attached in **Appendix A** while the tentative monitoring schedules for the current and next reporting months are attached in **Appendix B**.

#### 2.1.2 *Monitoring Locations*

The designated impact air quality monitoring stations are listed in **Table 2.1** and are shown in **Figure 2.1**.

**Table 2.1 Air Quality Monitoring Locations**

Monitoring Station	Location
A1	Village house at Lok Lo Ha Village
A2	Lok Lo Ha Village House No. 104
A3	Village House near Tsun King Road

#### 2.1.3 *Summary of Monitoring Results*

In this report, the results for the impact air quality monitoring conducted in April 2003 at the three designated locations were evaluated. **Table 2.2** summarises the ranges and mean of the 24-hour and 1-hour TSP monitoring results carried out in the reporting period. Detailed results, including graphical plots and relevant field logs, are presented in **Appendix C** and **D**. Meanwhile, **Appendix F** shows the meteorological conditions during the monitoring days.

**Table 2.2 Summary of 24 and 1-hour TSP Monitoring Results**

Parameter	Monitoring Location	Mean TSP Levels ( $\mu\text{g}/\text{m}^3$ )	Range ( $\mu\text{g}/\text{m}^3$ )	No. of Exceedance	
				Action Levels	Limit Levels
24 – hour TSP	A1	63.6	49 – 75	0	0
	A2	86.6	59 – 131	0	0
	A3	71.6	57 – 91	0	0
1 – hour TSP	A1	165.3	63 – 282	0	0
	A2	181.1	78 – 279	0	0
	A3	173.3	53 – 281	0	0

As can be seen from the table above, all measured 24-TSP and 1-hour TSP monitoring data were below the criteria as set out in the Action and Limit Levels in **Appendix A**.

Over the reporting period, the local weather conditions during the monitoring were mainly sunny or cloudy except some precipitations were recorded on 3 and 4 April 2003. From field logs, the major dust sources during samplings near the designated stations included road dusts, vehicle emissions from traffic in Lok Shun Path and construction works at Road D15 Site. The major construction works carried out at Road D15 Site over the reporting period were mainly erection of

fencing & hoarding, drainage works, fabrication precast beams, construction of Bridge A, B and C, retaining walls and stairs construction, noise barrier construction, box culvert extension and underground drainage and utilities. Meanwhile, it was also observed that there were construction activities carried out by sites that were not related to this Project in the vicinity of the monitoring stations.

Comparing with the monitoring results from last month, all the calculated mean 24-hour and 1-hour TSP levels, except for 1-hour TSP at Station A1, were higher in this reporting month. The mean 1-hour TSP level at Station A1 was slightly lower in April ( $165.3\mu\text{g}/\text{m}^3$ ) than the data measured in March ( $179.8\mu\text{g}/\text{m}^3$ ).



**Figure 2.1 Air Quality Monitoring Locations**



## 2.2 Noise

### 2.2.1 Monitoring Requirements

Impact noise monitoring was conducted once in every six days at the five designated monitoring locations in accordance with specifications in the EM&A Manual. The duration of sampling was 30 minutes. The Action and Limit levels for noise monitoring are attached in **Appendix A** while the tentative monitoring schedules for the current and next reporting months are attached in **Appendix B**.

### 2.2.2 Monitoring Locations

The impact noise monitoring locations are presented in **Table 2.3** and shown in **Figure 2.2**.

**Table 2.3 Noise Monitoring Locations**

Monitoring Location	Measurement	Location
N1	Façade	Lok Lo Ha Village House No. 3B
N2	Façade	Lok Lo Ha Village House No. 32A
N3	Façade	Royal Ascot Block 9, Flat C
N4	Façade	Lok Lo Ha Village House No. 97
N5	Façade	Village near Royal Ascot

### 2.2.3 Summary of Monitoring Results

In this report, the results for the impact noise monitoring conducted in April 2003 at the five designated locations were evaluated. The monitoring results obtained are summarised in **Table 2.4** below. Detailed results, including graphical plots and relevant field logs, are presented in **Appendix E**. Meanwhile, **Appendix F** shows the meteorological conditions during the monitoring days.

**Table 2.4 Summary of Noise Monitoring Results**

Parameter	Monitoring Location	Range of Results dB(A)	No. of Exceedance	
			Action Levels	Limit Levels
30-minute Noise Measurement (Leq)	N1	61.0 – 64.3	0	0
	N2	65.9 – 66.6	0	0
	N3	56.5 – 60.8	0	0
	N4	56.8 – 72.7	0	0
	N5	59.9 – 61.7	0	0

As shown in the table above, all noise monitoring data recorded were below the criteria as set out in the Action and Limit Levels in **Appendix A**.

Over the reporting period, the local weather conditions during the sampling were mainly sunny or cloudy except some precipitations were recorded on 4 April 2003, while all monitoring was conducted with wind speed of below 1.3 m/s. Traffic and construction activities were the major noise sources identified at the five monitoring locations. Meanwhile it was noted from field log that activities of breaking, excavation, hammering, drilling & cutting and sheet piling, as well as operations of bulldozer, crane, compressor and dump truck were present in the vicinity of all stations during the monitoring.

Comparing with the monitoring results recorded in the last reporting period, the measured noise level ranges during this reporting month at all stations were slightly lower except Station N4. The highest level was recorded at Station N4 (72.7dB(A)) and occurred in the morning of April 23. According to the field log, the major noise source at that time was sheet piling operation.



**Figure 2.2 Noise Monitoring Locations**

### 3. ENVIRONMENTAL AUDIT

#### 3.1 General

In the last monthly EM&A report, two environmental issues were raised:

- Stagnant water should be removed after rainstorm event;
- Regular cleaning of the public road outside the site entrance should be carried out. Wastewater generated from the cleaning should be treated prior to discharging.

It was noted from site inspections that regular cleaning of the public road outside the site entrance had been conducted and wastewater generated from the cleaning had been properly treated before the discharge. Occasionally, stagnant water was observed on the site but was removed by the Contractor when instructed.

**Table 3.1** summarises the date and type of site inspections carried out during the reporting period.

**Table 3.1 Summary of Site Inspection during the Reporting Period**

Date	Type of Inspection
4 April 2003 (Friday)	Regular Site Inspection
11 April 2003 (Friday)	Regular Site Inspection
17 April 2003 (Thursday)	Regular Site Inspection
25 April 2003 (Friday)	Regular Site Inspection
29 April 2003 (Tuesday)	Regular Site Inspection

Over the reporting period, the major construction work at the Site include:

- Erection of fencing & hoarding
- Drainage works
- Fabrication precast beams
- Construction of Bridge A, B and C, including construction of pile cap & pier, abutment wall, bridge heading installation, bridge deck construction and bridge deck drainage
- Retaining walls and stairs construction
- Noise barrier construction, including demolishing existing retaining wall for Noise Barrier No. 1
- Box culvert extension
- Underground drainage and utilities

#### 3.2 Assessment of Environmental Monitoring Results

In this reporting month, there were no exceedance recorded for both impact air quality and noise monitoring. The monitoring result was discussed in **Section 2** of the report and are summarised in **Table 3.2** below.

**Table 3.2 Summary of Environmental Monitoring**

Item	Parameter	Monitoring Period	Total No. of Samples Taken (on all stations)	No. of Exceedance	
				Action Levels	Limit Levels
1	24 – hour TSP	01/04/03 to 30/04/03	15	0	0
2	1 – hour TSP	01/04/03 to 30/04/03	45	0	0
3	30-minute Noise Measurement (Leq)	01/04/03 to 30/04/03	25	0	0

### 3.3 Environmental Complaints

No environmental complaints had been received against the construction site in this reporting month. **Table 3.3** shows the summary record for this reporting month while **Table 3.4** summarises the complaint statistics from the commencement of the Project to date. **Appendix I** listed the details of all the complaints received on the construction site.

**Table 3.3 Environmental Complaints / Enquiry Received in the Reporting Month**

Complaint No.	Received date & Time	Description (inc. location/ nature of complaint)	Follow-up Action Taken	Recommended Mitigation Measures	Status/ Remarks
N/a	N/a	N/a	N/a	N/a	N/a

**Table 3.4 Summary of Total Number of Complaints Received to date**

Total No. of Complaints to date	No. of Complaints in this reporting period	No. of Active Complaints	No. of Inactive/Closed Complaints
2	0	N/a	2

### 3.4 Assessment of Mitigation Measures

**Table 3.5** presented the status of the major mitigation measures identified during site inspection.

**Table 3.5 Summary of Major Mitigation Measures at the Site**

Type	Mitigation Measure	Comments
Noise	Temporary purposed-built Noise Barrier	<ul style="list-style-type: none"> <li>Constructed based on the design in the Construction Noise Mitigation Proposal.</li> </ul>
Water	Wheel Washing Facility	<ul style="list-style-type: none"> <li>Installed and in operation.</li> </ul>
	Sand/Silt Removal Facilities	<ul style="list-style-type: none"> <li>Wastewater treatment systems are installed to treat site-runoffs and water from piling works</li> <li>Another treatment system was installed to treat wastewater from piling works near Bridge C.</li> </ul>
	Measures along stream-banks north-east of Lok Shun Path Roundabout	<ul style="list-style-type: none"> <li>Concrete, sandbags, sump pits and pumps were placed/installed along the banks to prevent construction debris and site run-off from entering the stream untreated.</li> </ul>
	Diversion of Stream Course via drainage pipe	<ul style="list-style-type: none"> <li>Installed at the existing channel.</li> </ul>
Wastewater	Water Reuse at wheel washing facility and site investigation drilling works.	Implemented

Type	Mitigation Measure	Comments
Land Contamination	Metal trays are placed underneath stationary machines where there are potential of oil leakage	Implemented
Air	Provide plastic sheeting covers on exposed soils	Implemented
	Regular water spraying on areas where there is likely generation of dust	Implemented
	Impervious sheeting was placed around the working area near monitoring station A1	Implemented

From site inspection, further improvement, including maintenance and cleaning, to the stream near Lok Shun Path Roundabout was necessary. In addition, proper removal of the sludge generated from Wetsep shall be required. Meanwhile, some leakage of oil was observed from a couple of equipments on the Site. In order to prevent land contamination, the Contractor was instructed to place metal trays underneath the affected area and remove the contaminated soil immediately for proper disposal as chemical waste. In addition, it was recommended that the equipments be fixed in order to prevent possible land contamination.

#### 4. FUTURE KEY ISSUE AND RECOMMENDATION

There are two environmental issues that will need to be addressed in the next reporting month:

- Further improvements to the stream near Lok Shun Path Roundabout, sludge generated from the site shall be removed properly;
- Possible land contamination caused by oil leakage from equipments on the site.

The updated work program for the following months are attached in **Appendix J** while the monitoring tentative schedule for the next reporting month are attached in **Appendix B**.

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**APPENDIX A:**

**Action and Limit Levels**

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**Action and Limit Levels for 24-hour TSP**

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
A1	156	260
A2	155	
A3	153	

**Action and Limit Levels for 1-hour TSP**

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
A1	371	500
A2	378	
A3	368	

**Action / Limit Levels for Construction Noise**

Time Period	Action Level	Limit Level
0700-1900 hours on normal weekdays	When one documented complaint is received	75* dB(A)
0700-2300 hours on holidays; and 1900-2300 hours on all other days		60/65/70** dB(A)
2300- 0700 hours of next day		45/50/55** dB(A)

\*\* to be selected based on Area Sensitivity Rating

Note: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

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**APPENDIX B:**

**Tentative Schedule for Impact  
Air Quality and Noise  
Monitoring**

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1. Tentative Schedule for Current Reporting Month – April 2003

Contract No. ST77/01  
 Sha Tin New Town, Stage II  
 Road D15 Linking Lok Shun Path and Tai Po Road

Tentative Time Schedule for Construction Phase Dust Monitoring for April 2003

Apr-03	Day	Start Time	
		24-hr TSP	1-hr TSP
1	Tue	x	x
2	Wed	x	x
3	Thu	10:30	09:00
4	Fri	x	11:00&14:00
5	Sat	x	x
6	Sun	x	x
7	Mon	x	x
8	Tue	x	x
9	Wed	10:30	09:00
10	Thu	x	11:00&14:00
11	Fri	x	x
12	Sat	x	x
13	Sun	x	x
14	Mon	x	x
15	Tue	10:30	09:00
16	Wed	x	11:00&14:00
17	Thu	x	x
18	Fri	x	x
19	Sat	x	x
20	Sun	x	x
21	Mon	x	x
22	Tue	10:30	09:00
23	Wed	x	11:00&14:00
24	Thu	x	x
25	Fri	x	x
26	Sat	x	x
27	Sun	x	x
28	Mon	10:30	09:00
29	Tue	x	11:00&14:00
30	Wed	x	x

Contract No. ST77/01  
 Sha Tin New Town, Stage II  
 Road D15 Linking Lok Shun Path and Tai Po Road  
 Tentative Time Schedule for Construction Phase Noise Monitoring for April 2003

Apr-03	Day	Start Time				
		N1	N2	N3	N4	N5
1	Tue	x	x	x	x	x
2	Wed	x	x	x	x	x
3	Thu	x	x	x	x	x
4	Fri	14:30	13:30	11:30	10:45	10:00
5	Sat	x	x	x	x	x
6	Sun	x	x	x	x	x
7	Mon	x	x	x	x	x
8	Tue	x	x	x	x	x
9	Wed	x	x	x	x	x
10	Thu	14:30	13:30	11:30	10:45	10:00
11	Fri	x	x	x	x	x
12	Sat	x	x	x	x	x
13	Sun	x	x	x	x	x
14	Mon	x	x	x	x	x
15	Tue	x	x	x	x	x
16	Wed	14:30	13:30	11:30	10:45	10:00
17	Thu	x	x	x	x	x
18	Fri	x	x	x	x	x
19	Sat	x	x	x	x	x
20	Sun	x	x	x	x	x
21	Mon	x	x	x	x	x
22	Tue	x	x	x	x	x
23	Wed	14:30	13:30	11:30	10:45	10:00
24	Thu	x	x	x	x	x
25	Fri	x	x	x	x	x
26	Sat	x	x	x	x	x
27	Sun	x	x	x	x	x
28	Mon	x	x	x	x	x
29	Tue	14:30	13:30	11:30	10:45	10:00
30	Wed	x	x	x	x	x

2. Tentative Schedule for Next Reporting Month – May 2003

Contract No. ST77/01  
 Sha Tin New Town, Stage II  
 Road D15 Linking Lok Shun Path and Tai Po Road

Tentative Time Schedule for Construction Phase Dust Monitoring for May 2003

May-03	Day	Start Time	
		24-hr TSP	1-hr TSP
1	Fri	x	x
2	Fri	10:30	09:00
3	Sat	x	x
4	Sun	x	x
5	Mon	x	11:00&14:00
6	Tue	x	x
7	Wed	10:30	09:00
8	Thu	x	x
9	Fri	x	11:00&14:00
10	Sat	x	x
11	Sun	x	x
12	Mon	x	x
13	Tue	10:30	09:00
14	Wed	x	11:00&14:00
15	Thu	x	x
16	Fri	x	x
17	Sat	x	x
18	Sun	x	x
19	Mon	10:30	09:00
20	Tue	x	11:00&14:00
21	Wed	x	x
22	Thu	x	x
23	Fri	10:30	09:00
24	Sat	x	x
25	Sun	x	x
26	Mon	x	11:00&14:00
27	Tue	x	x
28	Wed	x	x
29	Thu	10:30	09:00
30	Fri	x	11:00&14:00
31	Sat	x	x

Contract No. ST77/01  
 Sha Tin New Town, Stage II  
 Road D15 Linking Lok Shun Path and Tai Po Road  
 Tentative Time Schedule for Construction Phase Noise Monitoring for May 2003

May-03	Day	Start Time				
		N1	N2	N3	N4	N5
1	Tue	x	x	x	x	x
2	Fri	x	x	x	x	x
3	Sat	x	x	x	x	x
4	Sun	x	x	x	x	x
5	Mon	14:30	13:30	11:30	10:45	10:00
6	Tue	x	x	x	x	x
7	Wed	x	x	x	x	x
8	Thu	x	x	x	x	x
9	Fri	14:30	13:30	11:30	10:45	10:00
10	Sat	x	x	x	x	x
11	Sun	x	x	x	x	x
12	Mon	x	x	x	x	x
13	Tue	x	x	x	x	x
14	Wed	14:30	13:30	11:30	10:45	10:00
15	Thu	x	x	x	x	x
16	Fri	x	x	x	x	x
17	Sat	x	x	x	x	x
18	Sun	x	x	x	x	x
19	Mon	x	x	x	x	x
20	Tue	14:30	13:30	11:30	10:45	10:00
21	Wed	x	x	x	x	x
22	Thu	x	x	x	x	x
23	Fri	x	x	x	x	x
24	Sat	x	x	x	x	x
25	Sun	x	x	x	x	x
26	Mon	14:30	13:30	11:30	10:45	10:00
27	Tue	x	x	x	x	x
28	Wed	x	x	x	x	x
29	Thu	x	x	x	x	x
30	Fri	14:30	13:30	11:30	10:45	10:00
31	Sat	x	x	x	x	x

H M L	
CIRCUIT	DATE

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**APPENDIX C:**

**24-Hour TSP Impact  
Monitoring Results and Plots**

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### 1. 24-hour TSP Monitoring Results

#### Monitoring Station A1 (Lok Lo Ha Village House No. 3B)

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Total Sampling Time (min.)	Conc. (µg/m <sup>3</sup> )	Weather Condition
	Initial	Final	Initial	Final	Initial	Final			
3-Apr-03	2.8949	3.0046	1.11	1.11	11303.14	11327.14	1440	69	Cloudy
9-Apr-03	2.8497	2.9277	1.11	1.11	11330.14	11354.14	1440	49	Cloudy
15-Apr-03	2.8401	2.9500	1.11	1.11	11337.14	11381.14	1440	69	Cloudy
22-Apr-03	2.7903	2.9172	1.11	1.11	11384.14	11408.14	1440	75	Fine
28-Apr-03	2.9014	2.9916	1.11	1.11	11411.14	11435.14	1440	56	Fine
							Min	49	
							Max	75	
							Average	63.6	

#### Monitoring Station A2 (Lok Lo Ha Village House No. 104)

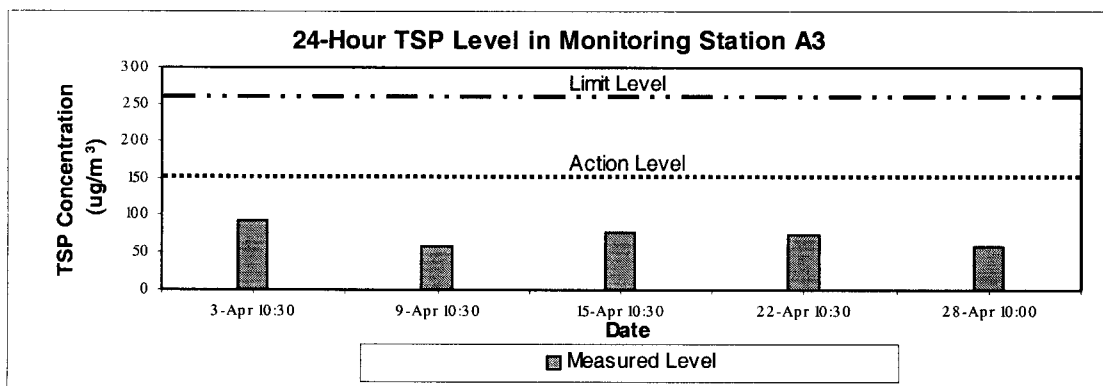
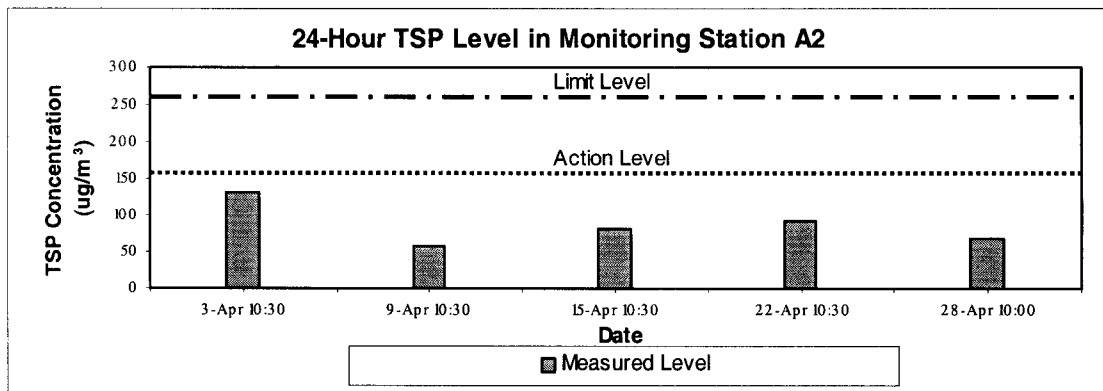
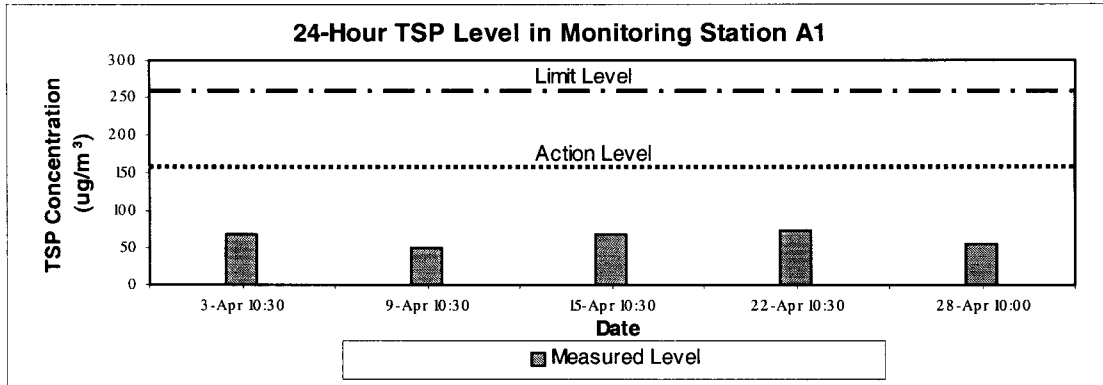
Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Total Sampling Time (min.)	Conc. (µg/m <sup>3</sup> )	Weather Condition
	Initial	Final	Initial	Final	Initial	Final			
3-Apr-03	2.9083	3.1178	1.11	1.11	1873.91	1897.91	1440	131	Cloudy
9-Apr-03	2.8513	2.9453	1.11	1.11	1900.91	1924.91	1440	59	Cloudy
15-Apr-03	2.8855	3.0160	1.11	1.11	1927.91	1951.91	1440	82	Cloudy
22-Apr-03	2.8259	2.9736	1.11	1.11	1954.91	1978.91	1440	92	Fine
28-Apr-03	2.8826	2.9925	1.11	1.11	1981.91	2005.91	1440	69	Fine
							Min	59	
							Max	131	
							Average	86.6	



**Monitoring Station A3 (Village House near Tsun King Road)**

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Total Sampling Time (min.)	Conc. (µg/m <sup>3</sup> )	Weather Condition
	Initial	Final	Initial	Final	Initial	Final			
3-Apr-03	2.8856	3.0310	1.11	1.11	10482.85	10506.85	1440	91	Cloudy
9-Apr-03	2.8816	2.9758	1.11	1.11	10509.85	10533.85	1440	59	Cloudy
15-Apr-03	2.8466	2.9680	1.11	1.11	10536.85	10560.85	1440	76	Cloudy
22-Apr-03	2.8072	2.9271	1.11	1.11	10563.85	10587.85	1440	75	Fine
28-Apr-03	2.8868	2.9787	1.11	1.11	10590.85	10614.85	1440	57	Fine
							Min	57	
							Max	91	
							Average	71.6	

## 2. Plots for 24-hour Monitoring Results



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**APPENDIX D:**

**1-Hour TSP Impact  
Monitoring Results and Plots**

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## 1. 1-hour TSP Monitoring Results

### Station A1 (Lok Lo Ha Village House No. 3B)

Date	Time of sampling	Concentration, $\mu\text{g}/\text{m}^3$
3-Apr-03	0900 – 1000	282
4-Apr-03	1100 – 1200	204
4-Apr-03	1400 – 1500	201
9-Apr-03	0900 – 1000	192
10-Apr-03	1100 – 1200	86
10-Apr-03	1400 – 1500	92
15-Apr-03	0900 – 1000	185
16-Apr-03	1100 – 1200	198
16-Apr-03	1400 – 1500	164
22-Apr-03	0900 – 1000	240
23-Apr-03	1100 – 1200	143
23-Apr-03	1400 – 1500	161
28-Apr-03	0900 – 1000	176
29-Apr-03	1100 – 1200	63
29-Apr-03	1400 – 1500	92
	Average	165.3
	Min	63
	Max	282

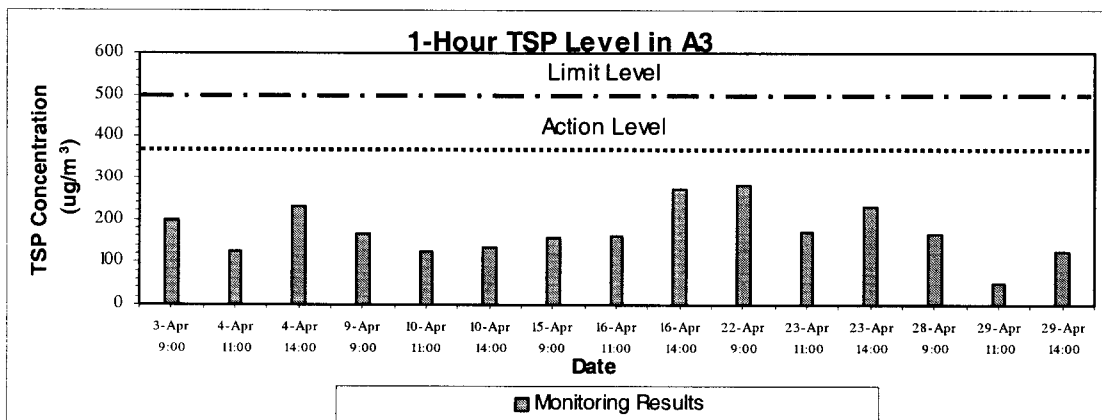
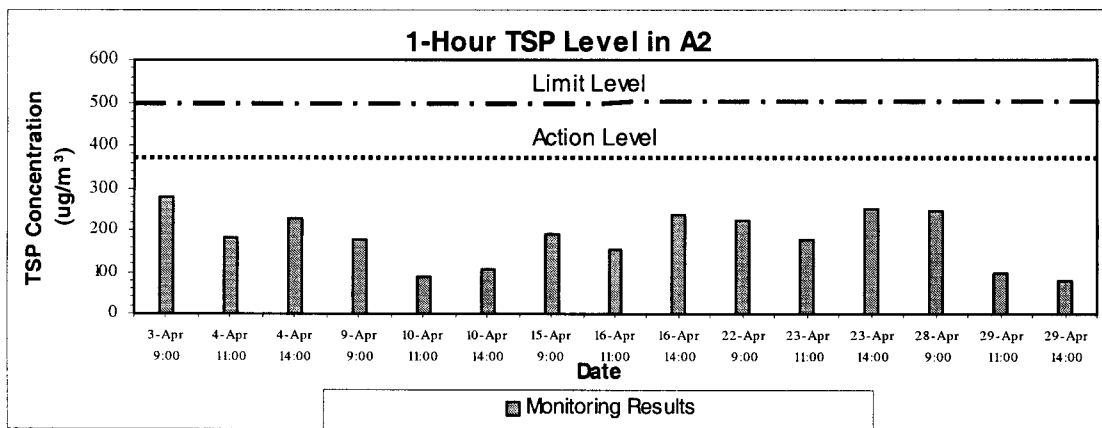
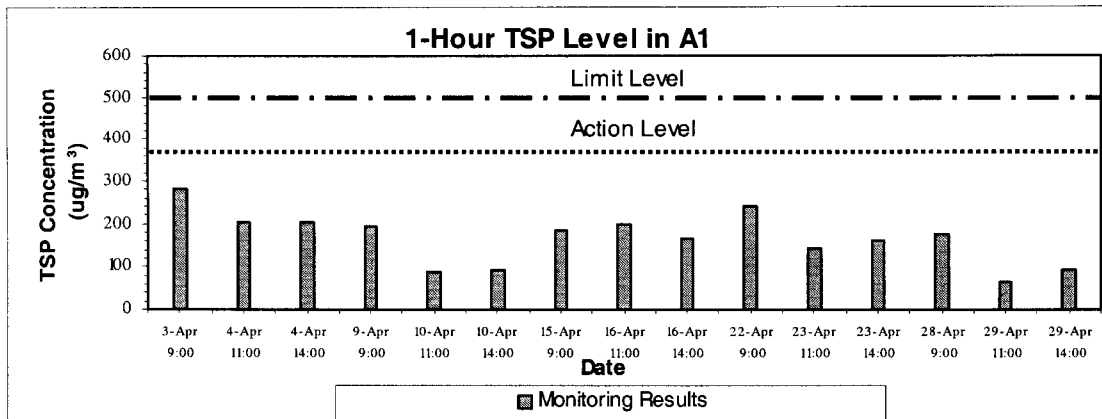
### Station A2 (Lok Lo Ha Village House No. 104)

Date	Time of sampling	Concentration, $\mu\text{g}/\text{m}^3$
3-Apr-03	0900 – 1000	279
4-Apr-03	1100 – 1200	183
4-Apr-03	1400 – 1500	228
9-Apr-03	0900 – 1000	179
10-Apr-03	1100 – 1200	87
10-Apr-03	1400 – 1500	105
15-Apr-03	0900 – 1000	189
16-Apr-03	1100 – 1200	155
16-Apr-03	1400 – 1500	237
22-Apr-03	0900 – 1000	224
23-Apr-03	1100 – 1200	177
23-Apr-03	1400 – 1500	252
28-Apr-03	0900 – 1000	246
29-Apr-03	1100 – 1200	98
29-Apr-03	1400 – 1500	78
	Average	181.1
	Min	78
	Max	279

**Station A3 (Village House near Tsun King Road)**

<b>Date</b>	<b>Time of sampling</b>	<b>Concentration, <math>\mu\text{g}/\text{m}^3</math></b>
3-Apr-03	0900 – 1000	198
4-Apr-03	1100 – 1200	126
4-Apr-03	1400 – 1500	233
9-Apr-03	0900 – 1000	165
10-Apr-03	1100 – 1200	123
10-Apr-03	1400 – 1500	135
15-Apr-03	0900 – 1000	158
16-Apr-03	1100 – 1200	161
16-Apr-03	1400 – 1500	273
22-Apr-03	0900 – 1000	281
23-Apr-03	1100 – 1200	171
23-Apr-03	1400 – 1500	230
28-Apr-03	0900 – 1000	167
29-Apr-03	1100 – 1200	53
29-Apr-03	1400 – 1500	125
	Average	173.3
	Min	53
	Max	281

## 2. Plots of 1-hour TSP Monitoring Results



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**APPENDIX E:**

**Daytime 07:00 -19:00Hrs  
Impact Noise Monitoring  
Results and Plots**

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## 1. Noise Monitoring Results

### Monitoring Station N1 (Lok Lo Ha Village House No.3B)

Date	Noise Level for 30 min, dB(A)			
	Time of Sampling	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
4-Apr-03	0942 – 1012	63.0	65.0	59.2
10-Apr-03	0945 – 1015	63.0	64.7	59.0
16-Apr-03	0945 – 1015	64.2	66.8	61.5
23-Apr-03	0950 – 1020	61.0	63.5	57.0
29-Apr-03	0942 – 1012	64.3	66.4	60.7

Min	61.0	63.5	57.0
Max	64.3	66.8	61.5

### Monitoring Station N2 (Lok Lo Ha Village House No.32A)

Date	Noise Level for 30 min, dB(A)			
	Time of Sampling	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
4-Apr-03	1015 – 1045	66.2	70.6	59.0
10-Apr-03	1020 – 1052	66.4	70.2	61.0
16-Apr-03	1023 – 1053	66.6	69.9	59.3
23-Apr-03	1025 – 1055	66.5	70.4	60.4
29-Apr-03	1018 – 1048	65.9	69.8	60.0

Min	65.9	69.8	59.0
Max	66.6	70.6	61.0

### Monitoring Station N3 (Royal Ascot Block 9, Flat C)

Date	Noise Level for 30 min, dB(A)			
	Time of Sampling	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
4-Apr-03	1300 – 1330	60.8	62.9	55.9
10-Apr-03	1300 – 1330	57.7	61.4	50.8
16-Apr-03	1300 – 1330	56.5	58.6	49.6
23-Apr-03	1300 – 1330	60.3	63.6	55.2
29-Apr-03	1300 – 1330	60.7	63.9	54.5

Min	56.5	58.6	49.6
Max	60.8	63.9	55.9



**Monitoring Station N4 (Lok Lo Ha Village House No.97)**

Date	Noise Level for 30 min, dB(A)			
	Time of Sampling	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
4-Apr-03	1100 – 1130	56.8	60.9	52.5
10-Apr-03	1057 – 1127	65.1	68.9	58.0
16-Apr-03	1100 – 1130	67.1	70.7	58.6
23-Apr-03	1105 – 1135	72.7	75.0	66.9
29-Apr-03	1055 – 1125	59.0	61.8	53.2

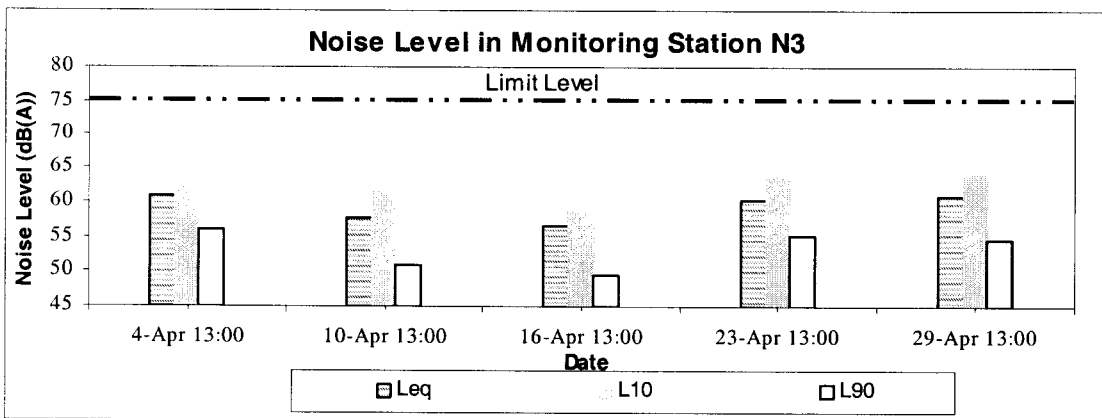
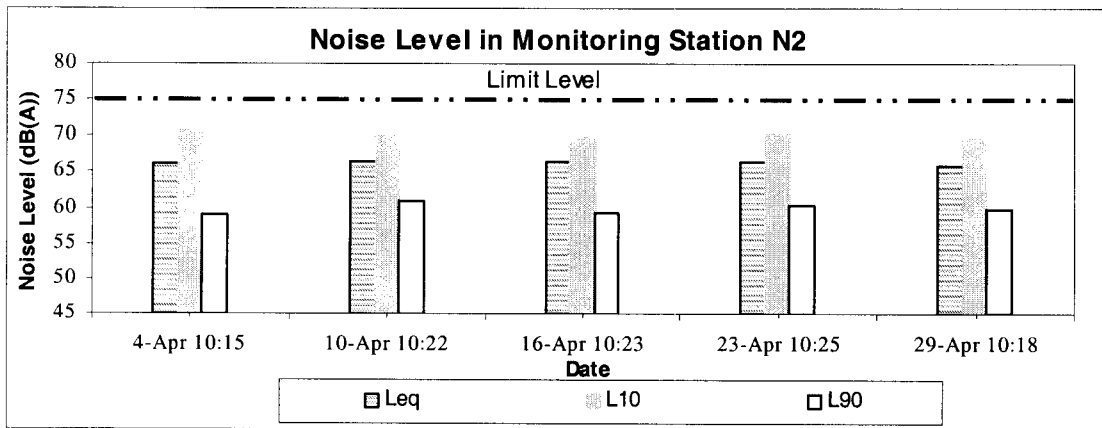
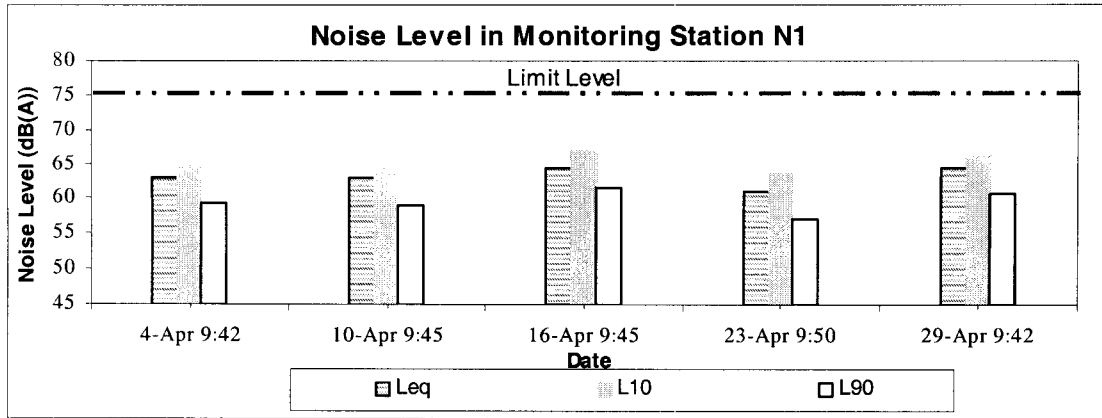
Min                    56.8                    60.9                    52.5  
 Max                    72.7                    75.0                    66.9

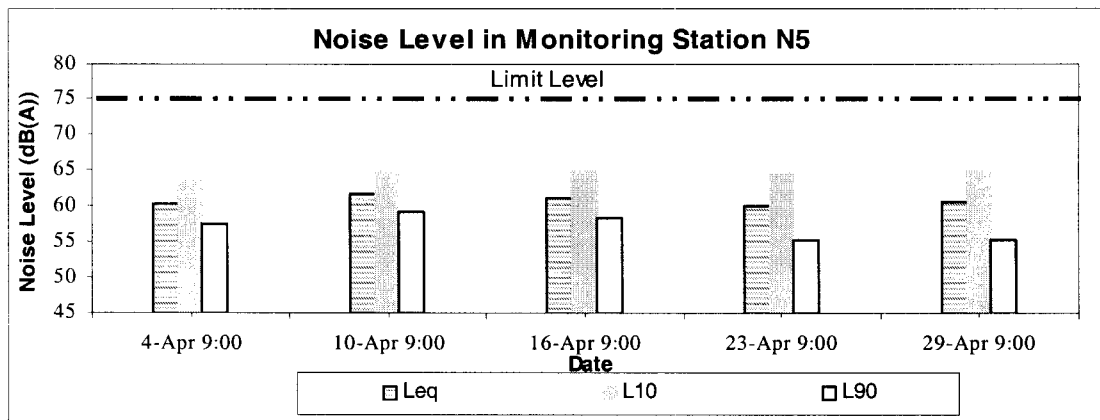
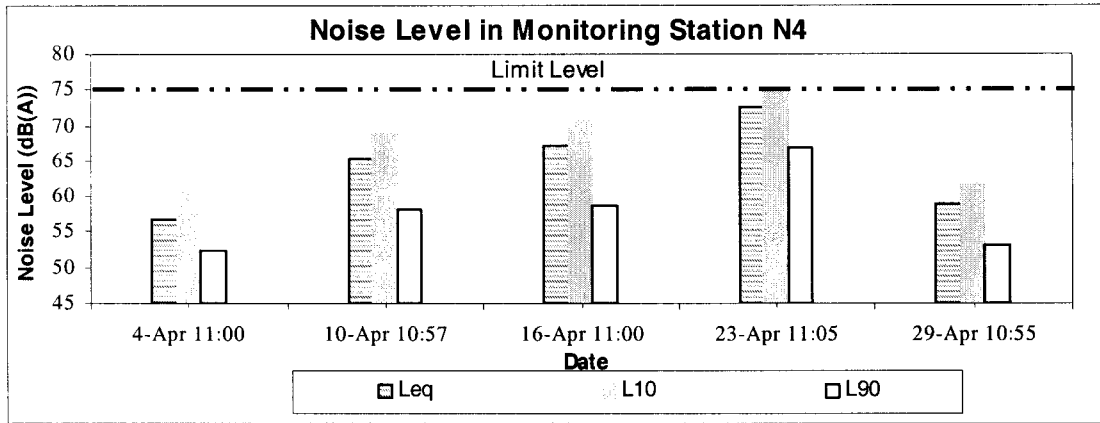
**Monitoring Station N5 (Village House near Royal Ascot)**

Date	Noise Level for 30 min, dB(A)			
	Time of Sampling	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>
4-Apr-03	0900 – 0930	60.3	63.2	57.4
10-Apr-03	0900 – 0930	61.7	64.7	59.3
16-Apr-03	0900 – 0930	61.2	64.8	58.3
23-Apr-03	0900 – 0930	59.9	64.5	55.4
29-Apr-03	0900 – 0930	60.6	65.1	55.3

Min                    59.9                    63.2                    55.3  
 Max                    61.7                    65.1                    59.3

## 2. Plots of Noise Monitoring Results





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**APPENDIX F:**

**Weather Conditions During  
Monitoring Periods**

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**Weather Condition during Monitoring Period  
(From 1 to 30 April 2003)**

Date	Weather	Mean Air Temperature (°C)	Wind Speed (m/s)	Mean Relative Humidity (%)
3-Apr-03	Cloudy - Trace Rain	26.2	0.5	88
4-Apr-03	Cloudy - Trace Rain	23.7	0.5	86
9-Apr-03	Cloudy	19.1	0.5 - 1.0	87
10-Apr-03	Cloudy	18.8	1.0	94
15-Apr-03	Cloudy	21.4	0.9 - 1.0	80
16-Apr-03	Cloudy	21.6	1.0	80
22-Apr-03	Fine	24.5	0.5 - 1.0	77
23-Apr-03	Fine	25.8	0.7	77
28-Apr-03	Fine	25.3	1.0	80
29-Apr-03	Fine	26.1	1.0	83

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**APPENDIX G:**

**Event and Action Plan for Air  
Quality and Noise**

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## Event / Action Plan for Air Quality

EVENT	ACTION		
	ET	Engineer	CONTRACTOR
<b>ACTION LEVEL</b>			
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform the Engineer and Contractor;</li> <li>3. Repeat measurement to confirm finding; and</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor; and</li> <li>2. Check monitoring data and Contractor's working methods.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice, if any; and</li> <li>2. Amend working methods if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform the Engineer and Contractor;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily.</li> <li>5. Discuss with Engineer for remedial actions required;</li> <li>6. If exceedance continues, arrange meeting with the engineer; and</li> <li>7. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Check monitoring data and Contractor's working methods;</li> <li>4. Discuss with ET and Contractor on potential remedial actions; and</li> <li>5. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for mitigation measures to the Engineer within 3 working days of notification;</li> <li>2. Implement the agreed proposals; and</li> <li>3. Amend proposal if appropriate.</li> </ol>
<b>LIMIT LEVEL</b>			
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform the Engineer and Contractor;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep EPD and the Engineer informed of results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Check monitoring data and Contractor's working methods;</li> <li>4. Discuss with ET and Contractor on potential remedial actions; and</li> <li>5. Ensure remedial action properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to the Engineer within 3 working days of notification;</li> <li>3. Implement the agreed proposals; and</li> <li>4. Amend proposal if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform the Engineer and Contractor;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily.</li> <li>5. Investigate the causes of exceedance;</li> <li>6. Arrange meeting with EPD and the Engineer to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep EPD and the Engineer informed of the results; and</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>4. Discuss among ET and Contractor on potential remedial actions;</li> <li>5. Review Contractor's remedial action whenever necessary to assure their effectiveness; and</li> <li>6. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to the Engineer within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the Engineer until the exceedance is abated.</li> </ol>

**Event / Action Plan for Construction Noise**

EVENT	ACTION	
	ET	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify the Engineer and Contractor;</li> <li>2. Analyze investigation;</li> <li>3. Require Contractor to propose measures for the analyzed noise problem; and</li> <li>4. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to Environmental Team and the Engineer; and</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Notify the Engineer and Contractor;</li> <li>2. Notify EPD; and</li> <li>3. Require Contractor to implement mitigation measures; and increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Implement mitigation measures; and</li> <li>2. Prove to Environmental Team and the Engineer effectiveness of measures applied.</li> </ol>



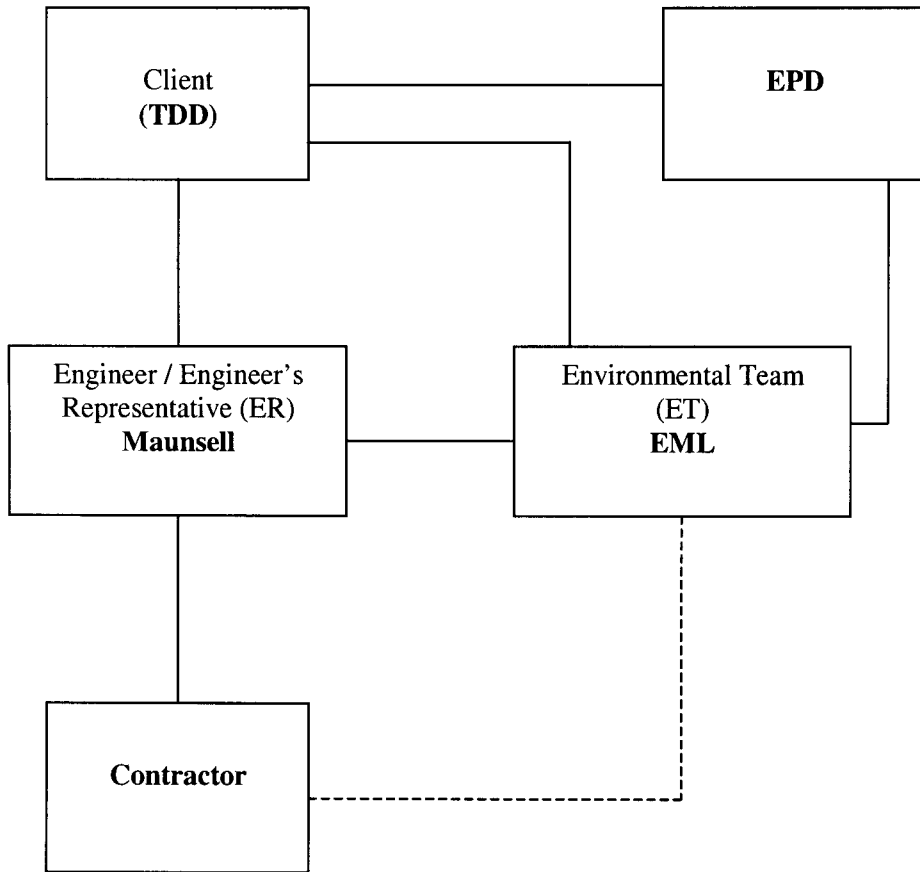
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**APPENDIX H:**

**Project Organisation and  
Contacts of Key Personnel**

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**Figure H.1: Project Management Structure**



**Contacts of Key Personnel:**

Organisation	Nature of Duty	Contact Personnel	Contact Number	
			Telephone	Fax
Territory Development Department (TDD)	Client	Mr. Stephen Wong	2301-1376	2721-8630
Maunsell Consultants Asia Ltd. (MCAL)	Engineer	Mr. Alan Kwong	2602-3433	2691-2649
Environmental Management Ltd. (EML)	Environmental Team	Mr. Lawrence Tso	2890-1090	2890-6901

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**APPENDIX I:**

**Summary Records of  
Complaints Received**

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Complaint No.	Received date & Time	Description (inc. location/ nature of complaint)	Follow-up Action Taken	Recommended Measures	Mitigation	Status/ Remarks
C02-N1	Morning, 29/7/2002	Around 9:30am on 29/7/02, police came on site to investigate a complaint of noise pollution emitted during rock breaking which carried out by the Contractor near the Site Office (near the box culvert and north Lok Shun Path Roundabout). The Contractor immediately halted the activity in response to police's advice	<ul style="list-style-type: none"> <li>Ad hoc site inspection was carried out on 31/7/02, jointly with the Engineer and Contractor</li> <li>The complaint log sheet, the investigation findings and recommendations on mitigation measures were submitted to the Engineer and Contractor.</li> <li>A letter, addressing to the complainant, will be sent to the police.</li> </ul>	<p>Mitigation actions:</p> <ul style="list-style-type: none"> <li>Excavator-mounted breaker shall not be carried out within 125m from any nearby noise sensitive receivers and;</li> <li>Temporary purposed built barrier should be installed whenever there are high noise level construction activities.</li> </ul>	The complaint was considered as ad hoc rather than continuous. It is therefore considered not necessary to increase the noise monitoring frequency  File Closed.	
C02-N2	Night-time, 7 August, 2002	<ul style="list-style-type: none"> <li>Nearby residents complained to police that a generator in Road D15 Site was operating in night-time near Lok Lo Ha Village.</li> <li>Police came to the site to investigate the complaint and inform watchmen to turn off the operating generator at around 8:30pm.</li> <li>The complaint was valid as it concerned with construction noise during the restricted hours.</li> </ul>	<ul style="list-style-type: none"> <li>Ad hoc site inspection was carried out on 8 August 02, jointly with the Engineer and Contractor and ET.</li> <li>The complaint log sheet, the investigation findings and recommendations on mitigation measures were submitted to the Engineer and Contractor.</li> <li>A letter in both English and Chinese, addressing to the complainant, has been sent to the police.</li> </ul>	<p>Mitigation actions:</p> <ul style="list-style-type: none"> <li>Under the Noise Control Ordinance, the carrying out of general construction work using powered mechanical equipment (including generators) during the restricted hours (between 7 p.m. and 7 a.m. or at any time on a general holiday (including Sunday) is prohibited unless a valid Construction Noise Permit is in force;</li> <li>A watchmen or site staff should be employed to check daily that all generators and plats are switched off after the permissible working hours.</li> </ul>	File Closed.	

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**APPENDIX J:**

**Updated Construction  
Program**

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ID	Task Name	Duration	2003	Jan 03	Feb 03	Mar 03	Apr 03
0	<b>Key Dates of Completion</b>	<b>871 days</b>					
1	1 Section 1 (346 days + 13 working days E O T)	360 days					
2	2 Section II (822 days + 38 working days E O T)	871 days					
3							
4	<b>3 General</b>	<b>662 days</b>					
5	3.1 Sealing EPD approval	53 days					
6	3.2 Submission of mitigation proposal	97 days					
7	3.3 Submission of Material, Method statement & ICI to IR	600 days					
8	3.4 Site clearance including existing asbestos houses of Bridge A	57 days					
9	3.5 Site clearance including existing houses of Bridge C	61 days					
10	3.6 Works with utility undertakers	690 days					
11	3.7 Utility Diversion	580 days					
12	3.8 Fabrication / Erection of IR Office	90 days					
13	3.9 Condition Survey / Defect Survey	36 days					
14	3.10 Erection of Temp. Fencing & Hoarding	141 days					
15	3.11 Relocation of existing fence wall at house no. 85 B	79 days					
16	3.12 Form Temp access (from bridge A to B) & (from bridge C to B)	130 days					
17							
18	<b>4 Earthworks</b>	<b>498 days</b>					
19	4.1 Forming access to Main Cutting CH 300-400	61 days					
20	4.2 Slope Cutting of CH 300-400 with associated slope drainage	151 days					
21	4.3 Forming access to CH 400-500	61 days					
22	4.4 Remaining slope Cutting at retaining wall 7 and CH 400-500	20 days					
23	4.5 Remove the temporary access road to retaining wall 7	8 days					
24	4.6 Formation of Cycle track and Footpath nearby KCRC Railway	45 days					
25							
26	<b>5 Earthwork Works (Section I &amp; IA)</b>	<b>422 days</b>					
27	5.1 General Clearance & Initial Pile Excavation	27 days					
28	5.2 Drainage Works (pipeline 1.019-1.024, 7.022 & 15.000)	275 days					
29	5.4 Drainage Works (pipeline 1.011-1.013)	50 days					
30	5.5 Drainage Works (pipeline 1.014-1.016)	77 days					
31	5.6 Drainage Works (pipeline 1.000-1.004 & 2.000-2.001, 3.000-3.001, 3.005-3.006)	160 days					
32	5.7 Drainage Works (pipeline 3.002-3.004)	31 days					
33							
34	<b>6 Bridge A</b>	<b>724 days</b>					
35	6.1 Procurement and Approval of Alternative I-beams	121 days					
36	6.2 Set up Precast Yard	62 days					
37	6.3 Fabrication precast beams A3-A4	42 days					
38	6.4 Fabrication precast beams A1-A2, A3 & A4-A5	97 days					
39	6.5 Ground Investigation	51 days					
40	6.6 Piling Works at A1, A2, A3, A4 & A5	141 days					
41	6.7 Construction of Pile Caps at A2, A3, A4 and Piers A3, A4	102 days					
42	6.8 Construction of Abutment A5 and installation of bearing	60 days					
43	6.9 Procurement, manufacturing and testing of bridge bearing	176 days					
44	6.10 Installation of bridge bearings at Pier A3 & A4	4 days					
45	6.11 Erection of precast beams between A3 and A4	6 days					
46	6.12 Cast in-situ decking between A3 & A4	60 days					
47	6.13 Construction of Abutment A1 & Piers A2	96 days					
48	6.14 Installation of bridge bearing at A1 & A2	4 days					

Project: Key Dates of Completion Date: Fri 11/04/03

Task Progress: [Progress bar]

Task Progress: [Progress bar]

Critical Task: [Progress bar]

Critical Task Progress: [Progress bar]

Milestone Summary: [Progress bar]

Milestone Summary: [Progress bar]

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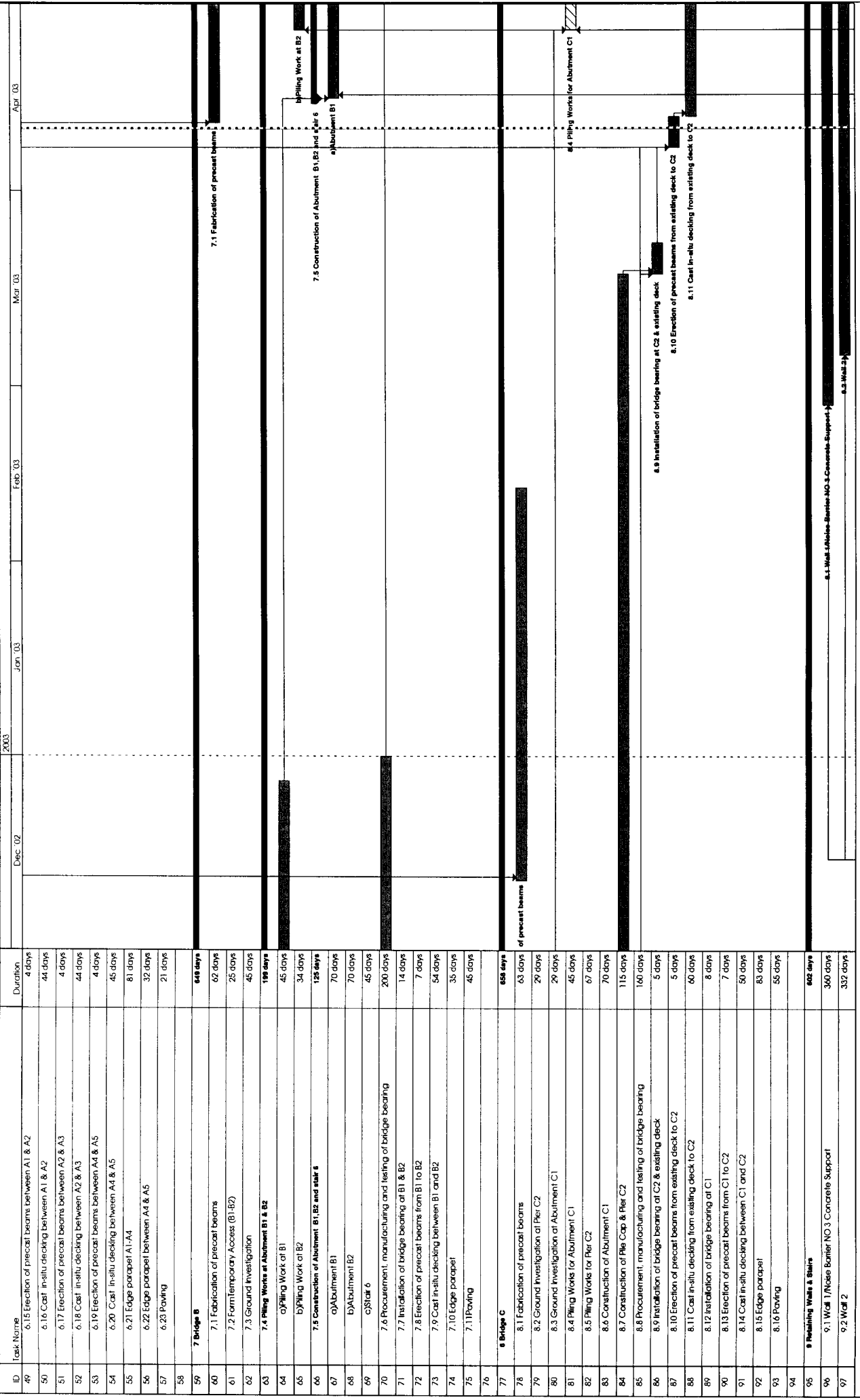
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External Tasks: [Progress bar]

External Tasks: [Progress bar]

Project Summary: [Progress bar]

Project Summary: [Progress bar]



Project: Key Dates of Completion  
 Date: 11/04/03

Task Progress: [Bar with diagonal lines]

Task: [Bar with solid black]

Critical Task Progress: [Bar with diagonal lines]

Critical Task: [Bar with solid black]

Milestone Summary: [Bar with diagonal lines]

Milestone: [Bar with solid black]

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Rolled Up Critical Task: [Bar with diagonal lines]

Rolled Up Critical Task: [Bar with solid black]

External Tasks: [Bar with diagonal lines]

Spill: [Bar with solid black]

Project Summary: [Bar with diagonal lines]

8.1 Wall 1/Noise Barrier NO.3 Concrete Support

8.2 Wall 2

Shea Tin New Town Stage II Contract No. ST17701 - Road D15 Linking Lok Shun Path and Tai Po Road

MASTER PROGRAMME (ST17701/MP/09)

ID	Task Name	Duration	2003	Jan '03	Feb '03	Mar '03	Apr '03	
98	9.3 Wall 3 & Stairs 2, 3	174 days	[Gantt bar]					
99	9.4 Wall 4	150 days	[Gantt bar]					
100	9.5 Wall 5 & Stair 5, 11	64 days	[Gantt bar]					
101	9.6 Wall 6	60 days	[Gantt bar]					
102	9.7 Wall 7 & Stair 7	516 days	[Gantt bar]					
103	9.7.1 Pre-drill holes (21 nos)	47 days	[Gantt bar]					
104	9.7.2 Forming working platform	14 days	[Gantt bar]					
105	9.7.3 Install bored pile (2 nos)	183 days	[Gantt bar]					
106	9.7.4 Construct the extension section above bored pile	60 days	[Gantt bar]					
107	9.7.5 Construct lagging/concrete decorative wall	80 days	[Gantt bar]					
108	9.7.6 Stair 7	45 days	[Gantt bar]					
109	9.8 Wall 8	110 days	[Gantt bar]					
110	9.9 Stair 8	90 days	[Gantt bar]					
111	9.10 Wall 11 & Stair 4	350 days	[Gantt bar]					
112	9.11 Wall 12 and Stair 9, 10, 12	90 days	[Gantt bar]					
113								
114	10 Noise Barriers	545 days	[Gantt bar]					
115	10.1 Noise Barrier No 1	583 days	[Gantt bar]					
116	10.1.1 Site investigation	30 days	[Gantt bar]					
117	10.1.2 Piling Works (incl. TIM implement)	150 days	[Gantt bar]					
118	10.1.3 R.C Structure	95 days	[Gantt bar]					
119	10.1.4 Demolition of Existing Retaining Wall	41 days	[Gantt bar]					
120	10.2 Procurement and Fabrication of Noise Barrier	157 days	[Gantt bar]					
121	10.3 Concrete footing for remaining noise barriers & stair no 1	94 days	[Gantt bar]					
122	10.3 Installation of Noise Barriers	150 days	[Gantt bar]					
123								
124	11 Box Culvert Extension	262 days	[Gantt bar]					
125	11.1 Remove existing inlet water diversion	29 days	[Gantt bar]					
126	11.2 Box culvert	156 days	[Gantt bar]					
127	11.3 Flood Wall	67 days	[Gantt bar]					
128	11.4 Backfilling	68 days	[Gantt bar]					
129								
130	12 Drainage Works (other than slope drainage)	557 days	[Gantt bar]					
131	12.1 Construct 1400 box culvert	90 days	[Gantt bar]					
132	12.2 Construct 1500 pipe	384 days	[Gantt bar]					
133	12.3 Drainage works at Lok He Lo roundabout	438 days	[Gantt bar]					
134	a) Drainage works at stage 2 of TIM	78 days	[Gantt bar]					
135	b) Drainage works at stage 3 of TIM	90 days	[Gantt bar]					
136	c) Drainage works at stage 4 of TIM	80 days	[Gantt bar]					
137	d) Drainage works at stage 5 of TIM	90 days	[Gantt bar]					
138	e) Drainage works at stage 6 of TIM	100 days	[Gantt bar]					
139	12.4 Remaining drainage works	450 days	[Gantt bar]					
140	13 Waterworks (DN25&DN40)	334 days	[Gantt bar]					
141	14 Standard RCP	60 days	[Gantt bar]					
142	15 Rain Shelter no.1&2	30 days	[Gantt bar]					
143	16 Road works excluding road marking & road furniture	398 days	[Gantt bar]					
144	17 Road marking & road furniture	37 days	[Gantt bar]					
145	18 Landscape Works (other than establishment works)	147 days	[Gantt bar]					

Project: Key Dates of Completion Date: Fri 11/04/03

Task: [Gantt bar] Task Progress: [Gantt bar]

Critical Task: [Gantt bar] Critical Task Progress: [Gantt bar]

Milestone Summary: [Gantt bar]

Rolled Up Milestone: [Gantt bar] Rolled Up Progress: [Gantt bar]

Split: [Gantt bar] External Tasks: [Gantt bar]

Project Summary: [Gantt bar]

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